Horace E. Dodge of Detroit, now building high class motor boats

MOTOR BOATING

119 W. 40th Street
New York

EACH year as the number of yachting enthusiasts increases by thousands it is interesting to review the prominent families who have always owned boats. This group forms a nucleus around which has been built the yachting fraternity of America.

Without detracting one bit from the glory due the small motor boat owner who has done so much to popularize the greatest recreation in the world; one must also consider how much these old yachting families have contributed to the sport. From a standpoint of progress in boat construction the present high efficiency of craft could never have been attained had not such yachting families as the Vanderbilts, Astors, Morgans, Dodges and hosts of others allowed the nation's best designers to work out their ideas to the advancement of yachting.

Wm. K. Vanderbilt, Jr., who owns and navigates his yacht Ara, has done much for boating. Commodore C. K. G. Billings recently acquired the new schooner yacht Hussar. Commodore Billings has the reputation of being second to no other yachtsman in his knowledge of boats. E. W. Scripps, who owns the motor yacht Ohio, is now cruising in the Orient on a maiden voyage of this motor yacht. Commodore Scripps like a great many other lovers of the sea is enthusiastic about long cruises, and we understand he intends to span the globe on his present cruise.

The yacht Delphine, owned by the Dodge family of Detroit, is now en route from New York to Detroit via the St. Lawrence River. Delphine is one of the country's best equipped yachts and the crowning achievement of the late Horace E. Dodge who, without doubt, knew as much about boats as any American yachtsman.

The present Horace E. Dodge is an enthusiastic yachtsman. His fleet includes boats of every description from the ocean-going yacht to the small hydroplane that skims over the water at the mile per minute or better speed. Mr. Dodge is president of the boat-building company in Detroit, bearing his name, and is applying the same fixed purpose and tenacity of principle in the construction of boats as his father set forth in the automobile industry. Such activity cannot help but to further increase the development in boat and yacht design and construction.

The yachting fraternity of America owes much to men of this type who are applying their ingenuity and resources in the right direction and each year increasing the efficiency of our craft.

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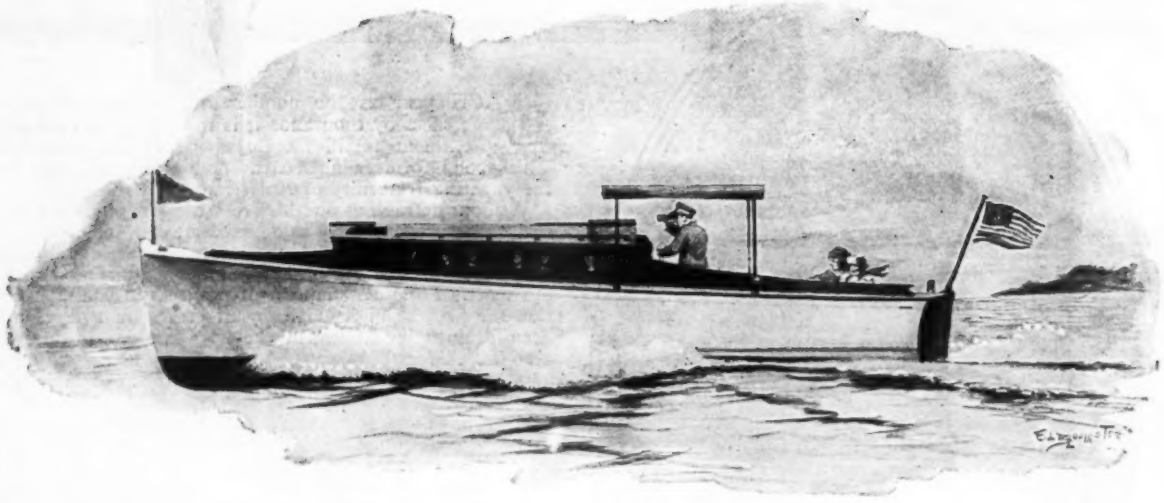
Vol. XXXII SEPTEMBER 1923 No. 3

MoToR BoatinG is published monthly by the International Magazine Company, William Randolph Hearst, president; C. H. Hathaway, vice-president; Ray Long, vice-president; Joseph A. Moore, treasurer; C. E. Forsdick, secretary; 119 West 40th St., New York, N. Y., U. S. A. Single copies, 25 cents. Yearly subscription in the United States and Canada, $3.00. In foreign countries, $4.00. When you receive notice that your subscription has expired it is best to renew it at once, using the blank enclosed. When changing an address, give the old address as well as the new and allow five weeks for the first copy to reach you.



Announcing

Great Lakes Packard Fishing Boat

Never has a fishing boat so ideally combined seaworthiness, accommodations and performance as does the 31-foot Great Lakes Packard Fishing Boat now offered for Southern delivery.

The outstanding advantages of this new craft are:

1st. Twin screw Packard engines, insuring safety under all conditions;

2nd. Comfortable sleeping accommodations for a party of two or four, depending upon whether forward cockpit is desired;

3rd. A good turn of speed that puts fishing grounds within easy reach;

4th. Ability to throttle down for trolling with a degree of smoothness equalled only by the Packard car itself.

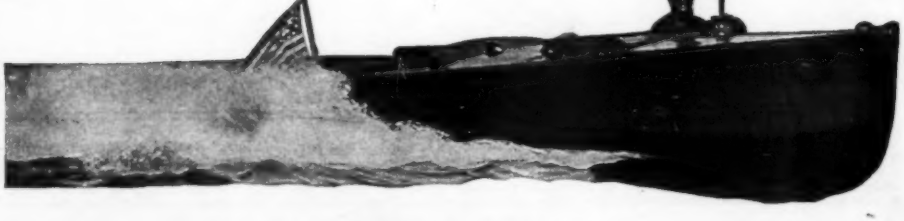
All that Great Lakes means in naval architecture is coupled with traditional Packard quality in motor performance.

The 31-foot Great Lakes Packard Fishing Boat, reflecting the utmost obtainable in its type, is a fitting companion for the 26-foot Great Lakes Packard Runabout which is sold and serviced through Packard dealers everywhere. If you contemplate spending the Winter in the South you will want one of these boats. Request Bulletin 200.

Great Lakes Boat Building Corporation, *Milwaukee*

LARGEST BUILDERS OF EXPRESS CRUISERS

Designers and Builders of Motor Yachts, Yacht Tenders, Runabouts and House Boats



Great Lakes Packard 26-foot Runabout

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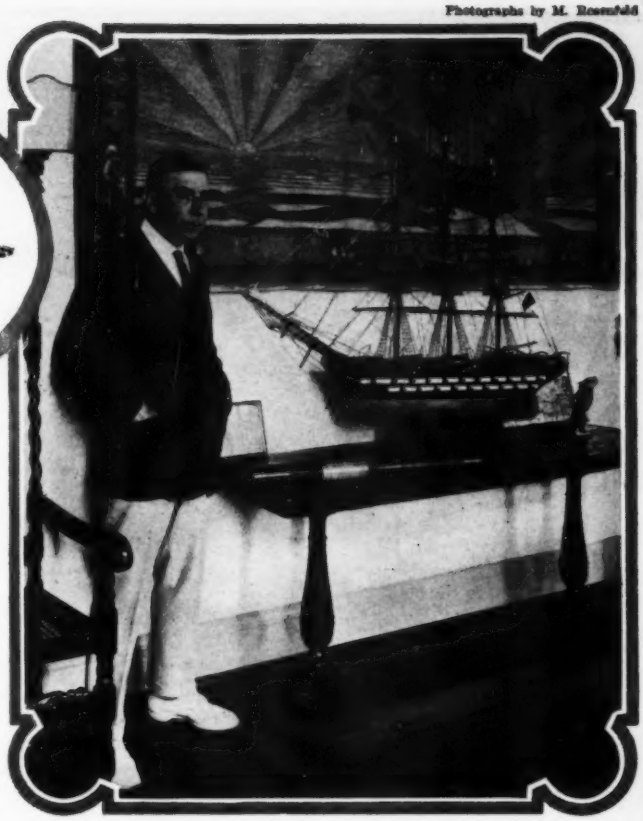
Chap Says—

Photographs by M. Rosenfeld



Booth Tarkington, known the world over as a writer. He has the same hobby as most of us—boats. Mr. Tarkington has spent the last twenty-one summers at Kennebunkport, Maine. He calls his summer home Seawood and it is filled with mementoes of the sea—old ship models, sea chests, sea paintings and the like. Retired sea captains are his friends. His favorite sport is motor boating. He has recently completed Zantu, a 31-foot express cruiser which he uses on the open ocean which abounds off the coast of Maine. In the next issue of MoToR BoatinG *we will have an article about Mr. Tarkington, the way he lives, his boats, and ship models, and Zantu.*

TIME was—and not so many years ago—when this was the month for writing a valedictory to the sport of yachting. The season's activities were reviewed with lamentations suitable to the period of the sere and yellow leaf, and the hope was expressed that the following spring would elicit even greater interest in the sport of kings.

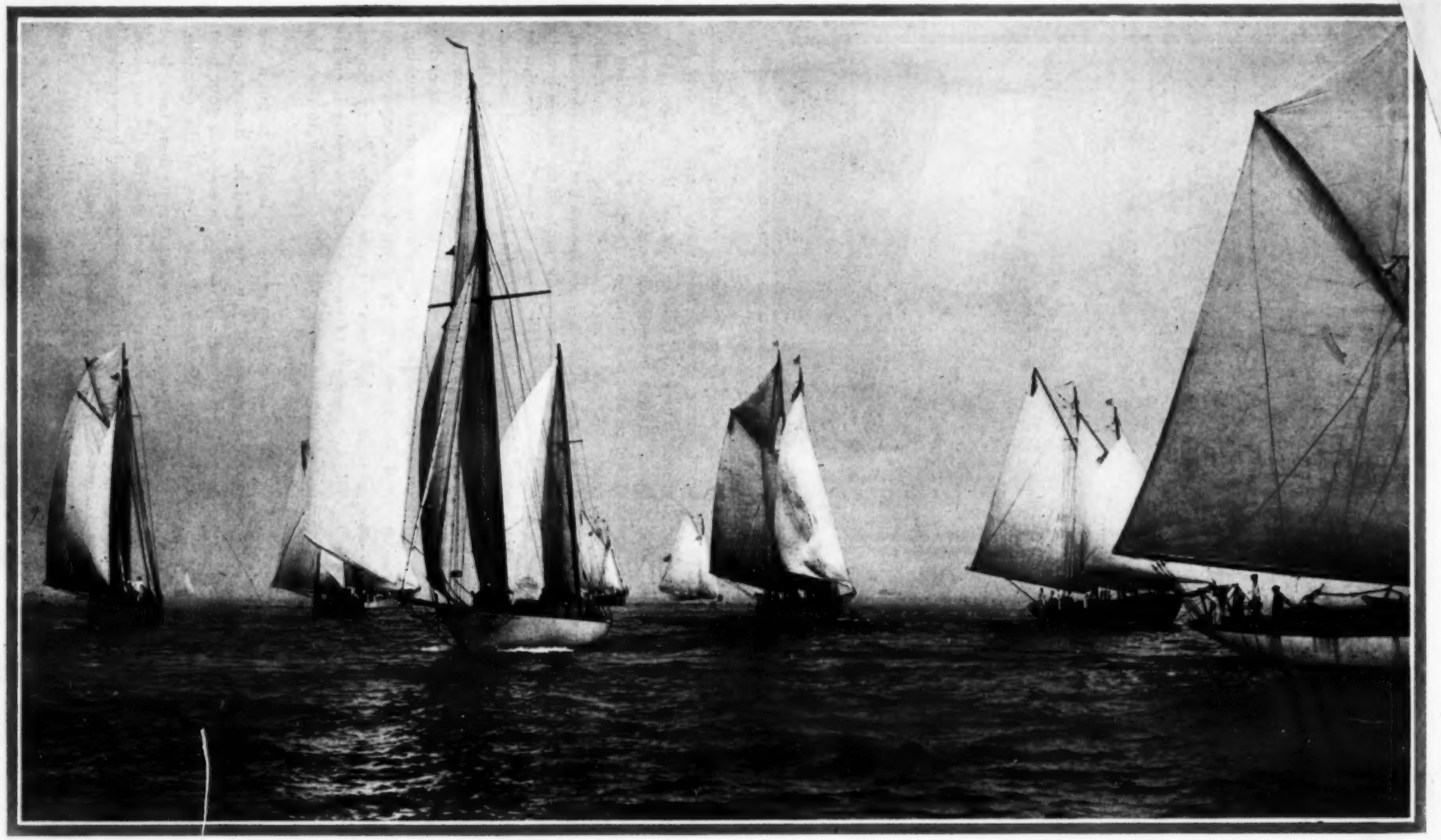
That time is passed. The motor boat passed it. Gasoline hasn't yet proved the conqueror of Jack Frost and Old Man Boreas, but it has provided the means of escaping from their niveous clutches. It has shown the way to Florida's climate of perennial warmth. In so doing it has helped to cut protected waterways through to the South and has played its part in building up the Peninsula State as the winter resort without parallel. Even a decade ago it was a feat worthy of extended mention in the daily press to pilot a small boat to its winter haven in Florida. Nowadays it has become so much a habit to cruise southward that the motor boating season never ends. It migrates, but it doesn't hibernate.

Since the subject has been suggested, we may as well admit (or proclaim) that the summer now closing has been the most successful in the history of yachting. The windjammers, long neglected by all except the incurable Corinthians, have come back into their own and voyaged across the wide seas in veritable armadas. Bermuda and Honolulu have been taken by storm, while coastwise ports have succumbed to legions of fore-and-afters. Motor craft, large and small, have cruised and raced until the sea has grown weary of getting out of their way. Outboard motors have given automobiles an excuse for existence along a hundred overland trails leading to rivers and fresh water lakes. Altogether, and without being at all specific, the season has been successful.

But, as we have already implied, the season is only just beginning. The course is now South Southwest or thereabouts to Florida, the Bahamas, and the blue, blue water of the Caribbean. Dozens who have grown tired of diverting their incomes to the yawning coffers of Uncle Sam have given up the expensive sport of business for the extensive sport of cruising, and hundreds who have no incomes anyway are arranging small-boat voyages to the Sunny South. The last thought of anyone who has really been infected with the benignant motor germ is to store his boat for the winter.

The whole purpose of this editorial is to put a bee into the bonnet of you who read it. Perhaps you haven't yet thought of sailing or shipping your boat to Florida. Perhaps, if that is out of the question, it hasn't yet occurred to you to vacate there for at least a fortnight, chartering a local boat for the occasion. So we've thought it over for you, and have decided that the most sane, wise, and healthy thing for you to do is join the Florida throng and indefinitely prolong the joyous season of motor boating.

Photograph by M. Rosenfeld



Off At The Crack of The Gun

The start of the Bermuda race, when every boat was a winner, and only the navigators were on pins and needles. It is worthy of note that the first three boats across the finish line at St. David Head were navigated by men who had seen service in the Naval Reserve during the war, and that about fifty per cent. of the remaining navigators also received their training on naval vessels. So—in time of war prepare for peace!

NAVIGATION *in* Ocean Racing

By Alfred F. Loomis

Many and Varied Problems are Involved in Sailing a Boat Over 700 Odd Miles of Ocean. Amateur Navigators Gather Much Data and Acquire Additional Experience While No Two Find Conditions the Same

Many of our best amateur navigators secured their training on board the sub-chasers

DURING the June days that the American fleet of twenty-two racing yachts was embayed in Hamilton Harbor by the hospitality of the Bermudians, and the Americans themselves were ashore sniffing the aroma of the oleanders and the juniper, a curious story crept into counterfeit circulation. It was to the effect that a certain schoooner sighted Bermuda over her starboard quarter, and that it was only by the grace of God and the bare chance of a glance astern that the schooner did not continue on to the Lesser Antilles.

No one believed this canard at the time, and at this writing I am not even positive that it was not a flight of my own imagination. Nevertheless there lingers in the cobwebbed recesses of my memory another fable of the Bermuda racers, and the coincidence of these two led me to take definite steps that will shortly be described.

The other yarn related to a yacht whose navigator obtained an absolute star fix on the morning of June 16 (the day before the winner crossed the line), which placed him less than 80 miles from St. David Head. Let me say again that this fix was absolute. I do not recall the stars implicated, but they were good, reliable, conscientious stars which stick strictly to their business of shining on deep sea navigators. There was no trumpery about this fix—no dead reckoning between sights, no haze, no false horizon—nothing to which the most pernickity navigator could take exception. As a result of it the skipper expected to garner the first money in the race.

And then a miserable, dastardly current started flowing at such a rate that the yacht was carried down to eastward of the islands, beyond the visibility of St. David Head light, and lost the race beating up to the finish line. That shows you how the forces of nature combat each other. The friendly stars gave a fix immeasurably better than any paltry sun-shooter could obtain, and the unsuspected current frustrated the work of the stars by swinging this one yacht to eastward two or three times as far as it swung any other yacht. It was certainly hard sledding.

These two incidents—the quartering landfall, and the phenomenal current—inspired me to draft a form letter to the owners of the contesting yachts, asking them for complete information concerning navigating conditions in the Bermuda race. The returns that have come in from a majority of the owners throw no further light on the fables

mentioned, but they do show a surprising lack of unanimity about the direction of the counter current south of the Gulf Stream.

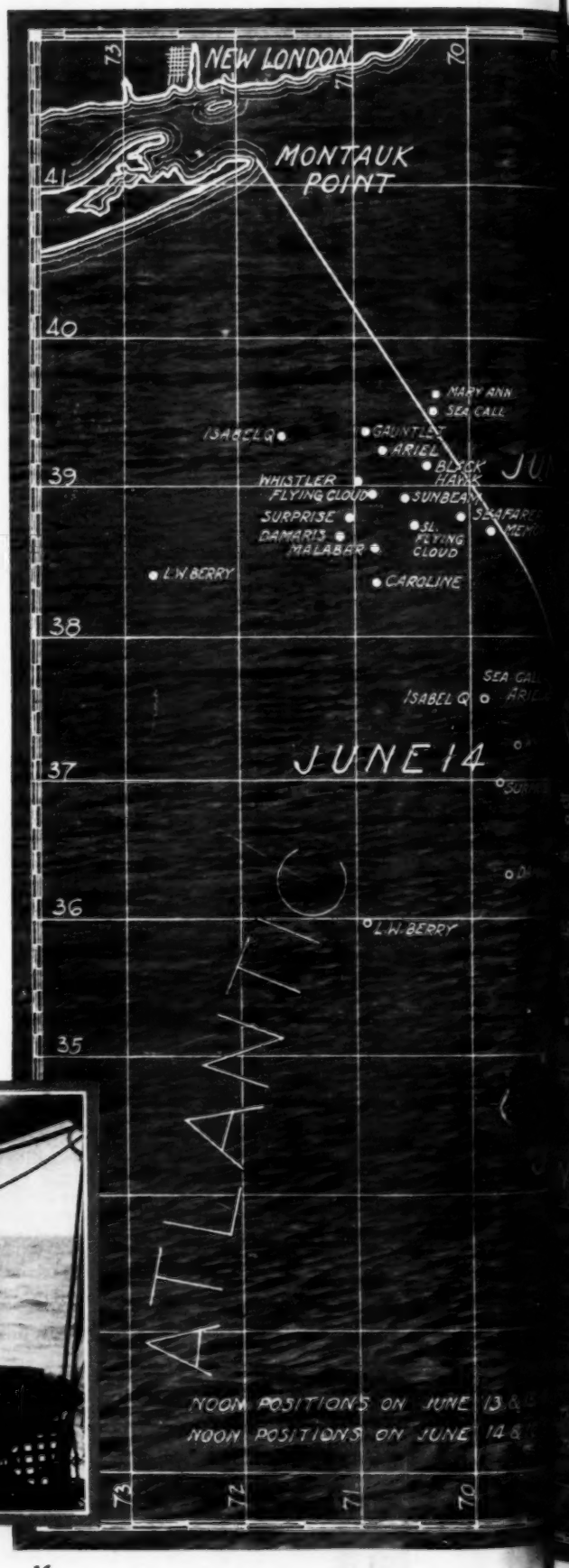
One skipper, whose word is to be taken literally, answers my questions without equivocation, thus: "As almost always—SW ½ mile per hour." Another of equal sagacity and integrity declares in answer to the selfsame question, "Easterly near the islands," while a third about whose ability I am not so well informed, writes, "North, 0.7 knot." Whence it will be noted that on the same day in the same place three different observers caught the counter current in the act of flowing SW by E by N. Under such conditions it is surprising that anybody found Bermuda.

Speaking now (and, I trust, for the rest of this article) in all seriousness, it was no mean feat for yachting America to dispatch twenty-two small boats across 700 miles of brine to a tiny coral outcropping, and have them all arrive without mishap. Bigger and steadier ships have foundered this year, older and more practised navigators have grounded on Bermuda's reefs this very summer, and abler (to hear them tell it) and more experienced seamen have shaken their heads over the race and said it was a fool's venture. Yet not a yacht in the contingent really lost her way, not a man was hurt, and not a mast was carried by the board. The affair was a success from start to finish—and under conditions so bad that Neptune is not likely to duplicate them for many Junes to come.

I had thought, having crossed the ocean twice in 110-foot submarine chasers, looped the loop around the Mediterranean in the same lively craft, and journeyed to Panama in a 28-foot yawl, that I knew something about adverse conditions for navigating. But on the run of Seafarer in the Bermuda race I opened up a new chapter of learning. As it is likely that every other navigator in the race experienced the same difficulties, I shall detail mine as a sample of the whole.

First off there was the regular watch to stand—four hours on and four off. In my case the watch had been arranged by the owner, Samuel B. Coffin, so that I could do most of my navigating during my regular tours on deck. That is, I was part of the watch which stood regularly from 4 to 8 a.m., from 12 to 4 p.m., and from 8 p.m. to midnight. The watches were not dogged. Thus it will be seen that without detracting from my cat naps I could get morning sights for longitude while standing the "four-by"; noon sights at the time of coming on deck for the afternoon watch, and afternoon longitude before going off. Star sights I left entirely to those who suffer from insomnia.

In a long ocean race the navigator is not always on duty, sometimes he stops for a moment and snatches a bite to eat



Noon positions of the contestants in the rac[illegible] Bermuda carefully plotted from notes by the navigators

The schooner Malabar owned and designed by John G. Alden, was well sailed and won in Class A

Although my place in the watch order had kindly been arranged for my greatest convenience, the fact could not be altered that I like to get a sight one and a half hours before noon to cross with my prime vertical, and another an hour and a half after noon to cross with the sight subsequently taken when the sun bears due west. This habit kept me on deck almost continuously from four in the morning to supper time, with another watch staring me in the face only two hours away. The navigators of several other boats not only did as much daylight work as this, but got in a great many star observations as well.

All this would have been rather pleasant if the wind had consented to haul abaft the beam, or if the sun had condescended to shine when he was wanted. In justice to the sun I may say that trouble was rarely experienced with the morning sights for longitude. The golden ball reached an altitude of forty-odd degrees and an azimuth of ninety without obscuration and it bore in such a position from the ship that one could stand aft and shoot without interference from flying spray.

But by the time ten-thirty had rolled around—and this goes for every day except the 16th when the sun didn't show at all between seven in the morning and five in the afternoon—the racing clouds had gathered and a pale and fugitive orb was doing its best to escape the navigator's attention. On any given day I was below working on dead reckoning when there came a cry from deck, "Oh, Al, the sun," and I climbed topside, sextant in one hand and watch, pad and pencil in the other, holding on by the elbows. Someone relieved me of all but the sextant, and, shielding that with my body, I clambered forward and braced myself against the mainmast, arm hooked around a halliard.

I arrived, of course, too late to keep my tryst with the sun. He, fickle celestial, was shedding his effulgence on some unseen competitor, miles to westward. In course of time, however, while Seafarer plunged into the oncoming combers and shook the spray angrily from her bows, there (*Continued on page* 88)

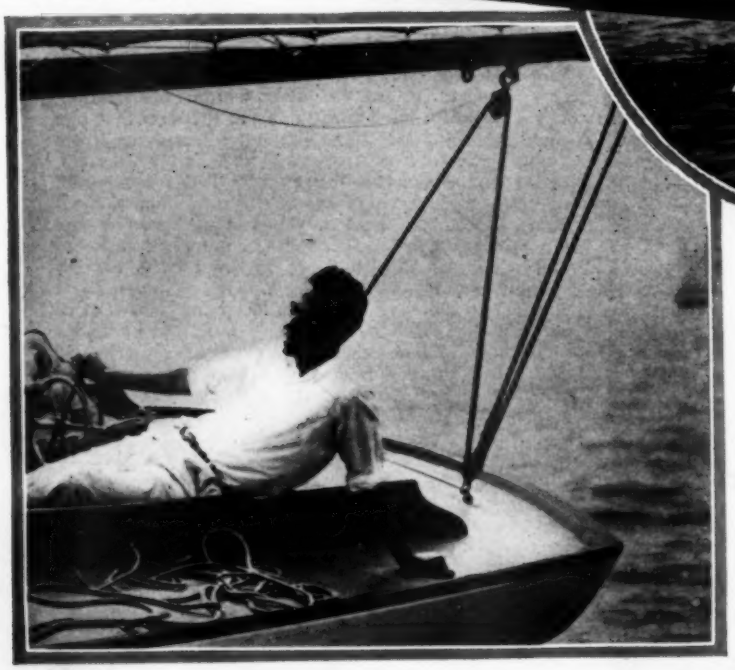
Where Breezes Blow

Both Sail and Motor Do Fascinating for Old and

Watching the start of the race of the Middletown (Conn.) Yacht Club. On the right is Mrs. M. S. Cornell, wife of Commodore Cornell

Scene during the Larchmont race week. Nearly 800 craft started during the six days of racing on the Sound during the Regatta

Edsel Ford at the wheel of his runabout Wood-Fish. This boat which is a 32-footer is powered with a 450 horse-power motor and does better than 50 miles an hour at all times



Cornelius Vanderbilt, Jr., at the helm of his racing sloop Comet. Mr. Vanderbilt handles his boat during all her races and is one of the most enthusiastic Corinthians we have in the sport today

Photographs by Rosenfeld & Levick

And Waters Flow

Their Share to Make the Sport Young and Poor and Rich

On the job again for the sixth season, J. Lee Barrett, at the left, and William E. Metzger of the Detroit Gold Cup Committee

Commodore Jarvis of Toronto, Canada, steering his schooner Venture. She was formerly the Istalena

Mr. and Mrs. Thomas Mix aboard their motor cruiser Miss Mixit in Los Angeles harbor. Both of these stars are enthusiastic yachtsmen and very free with their words of praise for the Hall-Scott motors in their boat

Salvage!

Part Two

by Peter B. Kyne

Part I appeared in August MoToR BoatinG

Illustrated by
L. A. Shafer

Here, blast you, Bart. You're spillin' the wind out o' that jib. First thing you know we'll have her in irons an' then the fat will be in the fire

"SPOKEN like a man—I do not think. Scraggs, for once in my life I have you where the hair is short. You find yourself up agin a proposition that requires brains, you ain't got 'em yourself an' at last you're forced to admit that Adelbert P. Gibney is the man that peddles 'em. Now, you been doin' a lot o' hollerin' about me an' Bart bein' pirates under the law an' liable to hangin' an' imprisonment, an' that kind o' guff don't go nohow. We're willin' to admit that mebbe we've been a little mite familiar an' forward, bankin' on the natural leanin' of friend for friend that you take it all for the joke it's intended to be, but when you go to carryin' the joke too far, we got to protect ourselves. Scraggsy, I'm willin' to dig in an' help out in a pinch, but it's gettin' so me an' Mac can't trust you no more. We're that leery of you we won't take your word for nothin', since you fooled him on the new boiler an' me on the paint; consequently, we're off you an' this salvage job unless you give us a clearance, in writin', statin' that we are not an' never was pirates, that we're good, law-abiding citizens an' aboard the Maggie as your guests, takin' the trip at our own risk. When you sign such a paper, with your crew for witnesses, I'll demonstrate how that bark can be salvaged without makin' you remove so much as a head o' cabbage to get at your small boat. My imagination's better'n my reputation, Scraggsy, an' I ain't workin' it for nothin'!"

"Gib, my *dear* boy. You're the most sensitive man I ever sailed with. Can't you take a little joke?"

"Sure, I can take a little joke. It's the big ones that stick in my craw an' stifle my friendship. Gimme a fountain pen an' a leaf out o' the log book an' I'll draw up the affydavit for your signature."

Scraggs complied precipitately with this request; whereupon Mr. Gibney spread his great bulk over the chart case and with many a twist and flip of his tongue on the up and down strokes, produced this remarkable document:

¶ *In Which the Adventurers Turn a Trick and Win a Fortune*

At Sea, Off Point Montara, aboard
S. S. Maggie, of San Francisco. June 4, 19—.

This is to sertify that A. P. Gibney, Esq., and Bart McGuffey, Esq. is law-abidin' sitisens of the U. S. A. and the constitootion thereof, and in no way pirates or such; and be it further resolved that the said parties hereto are aboard said American steamer Maggie this date on the special invite of Phineas P. Scraggs, owner, as his guests and at their own risk.

Witness my hand and seal:

Captain Scraggs signed without reading and the new mate and Neils Halvorsen appended their signatures as witnesses. Mr. Gibney thereupon folded this clearance paper into the tiniest possible compact ball, wrapping it in a piece of tinfoil torn from a package of tobacco, to protect it from his saliva, tucked it in his cheek and with a sign for McGuffey to follow him, started crawling over the cargo aft. By this time, the Maggie was within a hundred yards of the distressed bark and was ratching slowly backward and forward before her.

"In all my born days," quoth Mr. Gibney, speaking a trifle thickly because of the document in his mouth, "I never got such a wallop as Scraggs handed me an' you last night. I don't forget things like that in a hurry. Now that we got a vindication o' the charge o' piracy agin us, I'm achin' to get shet of the Maggie an' her crew, so if you'll kindly peel off all of your clothes with the exception, say, of your underdrawers, we'll swim off to that bark an' give Phineas P. Scraggs an exhibition of real sailorizin' an' seamanship."

"What's the big idee?" McGuffey demanded cautiously.

"Why, we'll sail her in ourselves—me an' you—an' glom all the salvage for ourselves. T'ell with Scraggs an' the Maggie an' that new mate an' engineer. I'm off'n 'em for life."

Pop-eyed with excitement and interest, B. McGuffey, Esquire, stood up and with a single twist shed his cap and coat. His shirts followed. Both he and Gibney were already minus their shoes and socks. To slip out of their faded dungarees was the work of an instant. Strapping their belts around their waists to hold up their drawers, the worthy pair stepped to the rail of the Maggie .

"Hey, there? Where you goin', Gib? I give you that clearance paper on condition that you was to tell me how to salvage that there bark without havin' to shift my cargo to get at the small boat."

"I'm just about to tell you, Scraggs. You don't touch a thing aboard the Maggie. You leave her out of it entirely. You just jump overboard, like me an' Mac will in a jiffy, swim over to the bark, climb aboard, and sail her in to San Francisco Bay. When you get there you drop anchor an' call it a day's work." He grinned broadly. "One o' these bright days, Scraggs, when me an' Mac is just wallerin' in salvage money, drop around to see us an' we'll give you a kick in the face. Farewell, you boobs," and he dove overboard.

"Ta-ta," McGuffey cried in his tantalizing falsetto voice, and followed his leader into the briny deep. As they came up and snorted, grampus-like, shaking the water out of their eyes, they glanced back at the Maggie and observed that Captain Scraggs was, for the third time that never-to-be-forgotten voyage, jupming on his hat.

"If I was that far gone in a habit," quoth Mr. McGuffey as he hauled up alongside Mr. Gibney, "I'll be switched if I wouldn't go bareheaded an' save expenses."

The tide was still at the flood and the two adventurers made fast progress toward the Chesapeake. Choosing a favorable opportunity as the vessel dipped, they grasped her martingale, climbed up on the bowsprit, and ran along the bowsprit to the to'gallan'-fo'castle. On the deck below a dead man lay in the scuppers, and such a horrible stench pervaded the vessel that McGuffey was taken very ill and was forced to seek the rail.

"Scurvy or somethin'," Mr. Gibney announced quite calmly. "Here's the devil to pay. There should be chloride of lime in the mate's storeroom—I'll scatter some on these poor devils. Too close to port now to chuck 'em overboard. Anyhow, Bart, me an' you ain't doctors, nor yet coroners or undertakers, so you'd better skip along an' build a fire under the donkey aft. Matches in the galley, of course."

"I wish she was a schooner," McGuffey complained, edging over to the weather rail. "It'd be easier for us two to sail her then. I'm only a marine engineer, Gib, an' while I been goin' to sea long enough to pick up something about handlin' a vessel, still I'll get dizzy if I go aloft—an' I'm sure to get sick. You'll have to do all the high an' lofty tumblin'—an' how in blue blazes us two're goin' to sail a square-rigger into port is a mystery to me."

"Leave the worryin' to your Uncle Gib, Bart. You can take the wheel an' steer, can't you? She has enough sail practically set now to make her handle good. Look at them courses hangin' in the buntlines an' the yards braced a-box! All we got to do is to square 'em around—but never mind explanations. I'll show you how it's done after we get steam up in the donkey. I'd prefer a wind about two points aft her beam, but never let it be said that I turned up my nose at a good stiff nor'west trade. I've sunk pretty low, Mac, but I was a real sailor once an' I can sail this old hooker wherever there's water enough to float her. It's just pie—well, for heaven's sake, Mac, what are you standin' around for? Ain't I ordered you to get steam up in the donkey? Lively, you lubber. After you've got the fire goin', we'll place leadin' blocks along the deck, lead all the runnin' gear to the winch head, an' stand by to swing them yards when I give the word."

Mr. Gibney trotted down to the main deck and prowled aft. On the port side of her house he found two more dead men, and a cursory inspection of the bodies told him they had died of scurvy. He circled the ship, came back to the fo'castle, entered, and found four men alive in their berths, but too far gone to leave them. "I'll have you boys in the Marine Hospital tonight," he informed the poor creatures, and sought the master's cabin. Lying on his bed, fully dressed, he found the skipper of the Chesapeake. The man was gaunt and emaciated.

The freebooter of the green-pea trade touched his wet forelock respectfully. "My name is Gibney, sir, and I hold an unlimited license as first mate of sail or steam. I was passin' up the coast on a good-for-nothin' little bumboat, an' seen you in distress, so me an' a friend swum over to give you the double O. You're in a bad way, sir."

"Two hundred and eighty-seven days from Hamburg, Mr. Gibney. Our vegetables gave out and we drank too much rain water and ate too much fresh fish down in the Doldrums. Our potatoes all went rotten before we were out two months. Naturally, the ship's officers stuck it out longest, but when we drifted in here this morning, I was the only man aboard able to stand up. I crawled up on the to'-gallan' fo'castle and let go the starboard anchor. I'd had it cock-billed for three weeks. All I had to do was knock out the stopper."

While Mr. Gibney questioned him and listened avidly to the horrible tale of privation and despair, McGuffey appeared to report a brisk fire under the donkey and to promise steam in forty minutes; also that the Maggie was hove to a cable length distant, with her crew digging under the deckload of vegetables for the small boat. "Help yourself to a belayin' pin, Bart, an' knock 'em on the heads if they try to come aboard," Mr. Gibney ordered nonchalantly.

"Do I understand there is a steamer at hand, Mr. Gibney?" the master of the Chesapeake queried.

"There's an excuse for one, sir. The little vegetable freighter Maggie. She'll never be able to tow you in, because she ain't got power enough, an' if she had power enough she ain't got coal enough. Besides, Scraggs, her owner, is a rotten bad article an' before he'll put a rope aboard you he'll tie you up on a contract for a figger that'd make an angel weep. The way your ship lies an' everything, me an' McGuffey can sail her in for you at half the price."

"I can't risk my ship in the hands of two men," the sick captain answered. "She's too valuable and so is her cargo. If this little steamer will tow me in I'll gladly give her my towline and let the court settle the bill."

"Not by a million," Mr. Gibney protested. "Beg pardon, sir, but you don't know this here Scraggs like I do. I

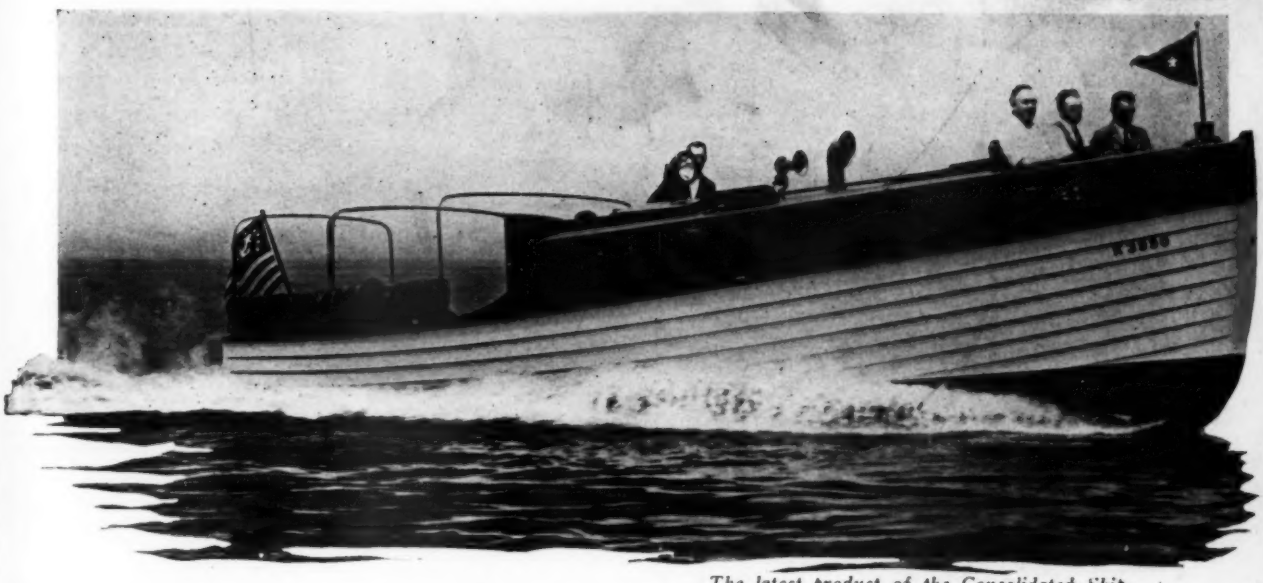
(*Continued on page 62*)

Another Record Broken

WE announced in the August issue of MoToR BoatinG that the advance orders for that issue amounted to 25,300 copies, the largest number we had ever had. However, that record stands for only a month. An even larger number of copies for this issue have been ordered and we have again been compelled to increase the number of copies printed. Before the tenth of each month, most newsstands report that their copies of MoToR BoatinG have been "sold out."

The high quality and volume of both the editorial matter and advertising is largely responsible for the popularity and increasing volume of sales of MoToR BoatinG each month. More and better feature articles, pictures, designs, how to build stories, etc., etc., are planned for the fall and winter issues. You will not want to miss a single number.—Editor.

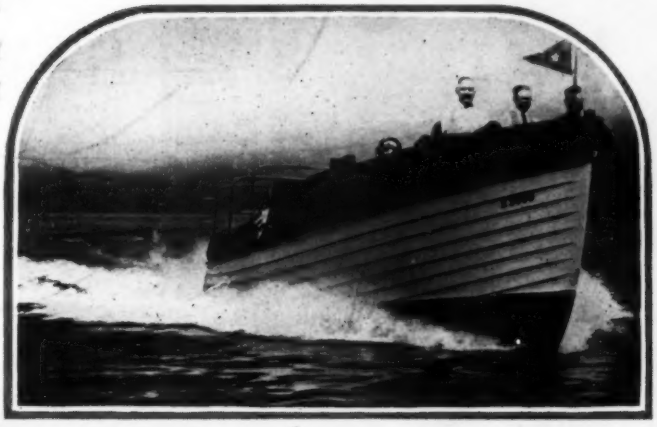
Photographs by M. Rosenfeld



The latest product of the Consolidated Shipbuilding Corporation of Morris Heights, N. Y. is a high speed 34-foot sea skiff model fishing boat. This boat is particularly adapted for the varied requirements of boating in southern waters. It is capable of high speed and can also operate at trolling speeds

Polly, A Palm Beach Fisherman

A One-Design Class With Speed, Developed for the Requirements of Deep Sea Fishing



It is substantially constructed on the lap strake style, and is fitted with all essential equipment for comfort at sea. Full cruising gear is provided

The power plant installed is one of the standard six cylinder Hall-Scott marine engines of 200 h.p. This engine is remarkably flexible and can handle the boat from three to thirty miles an hour with ease

Nueva, owned by T. W. Brigham of Greenport, Long Island, under colors of the Shelter Island Yacht Club, winner of the trophy representing the A. P. B. A. handicap cruiser Championship of America

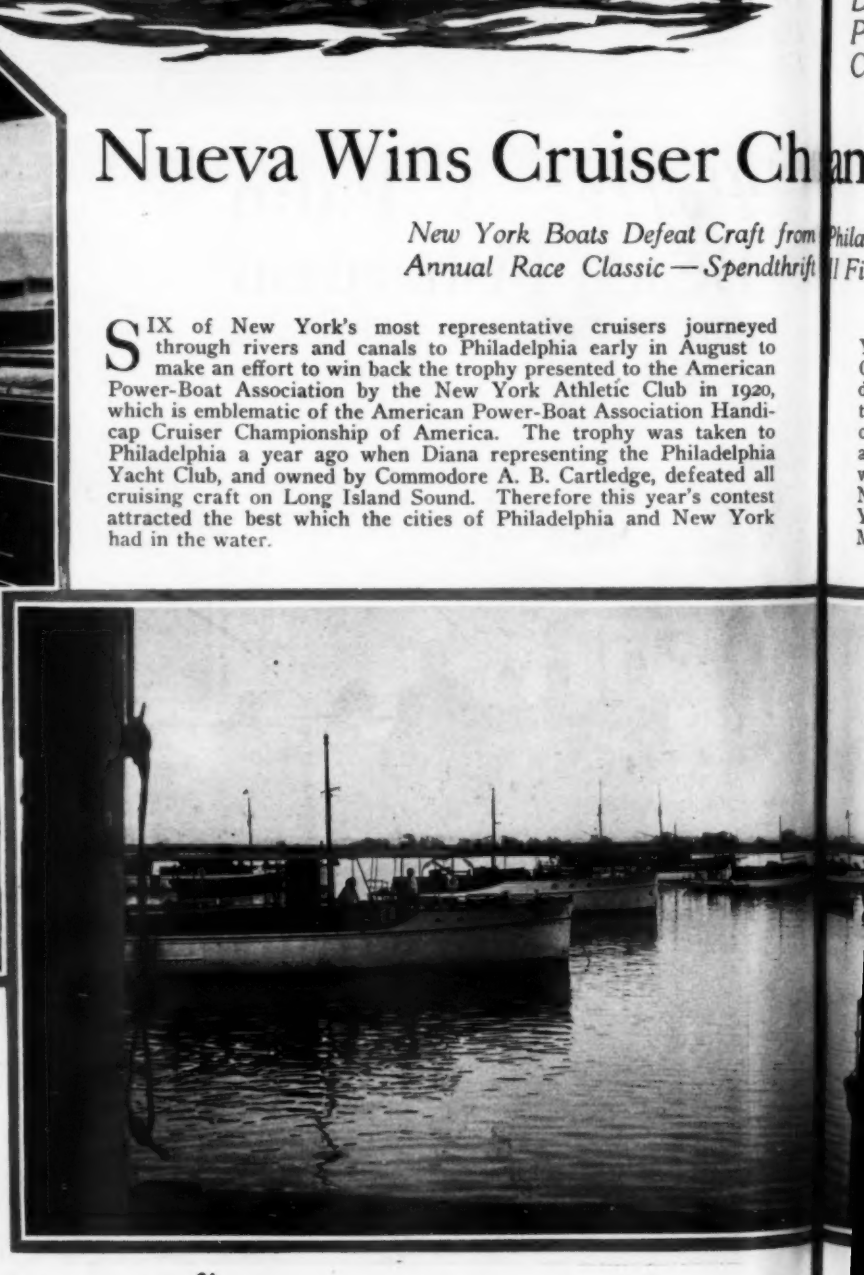
Photographs by Rosenfeld & Levick

W. Roy Halsey of the Orienta Yacht Club, owner of Spendthrift II which finished second, giving the New York boats the first two positions

Nueva Wins Cruiser Ch[am]

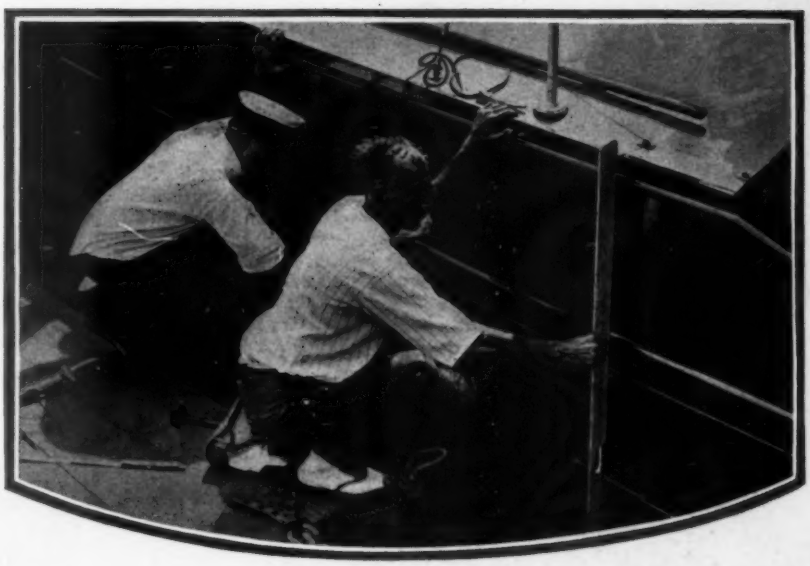
New York Boats Defeat Craft from [Phila]
Annual Race Classic — Spendthrift [II Fi]

SIX of New York's most representative cruisers journeyed through rivers and canals to Philadelphia early in August to make an effort to win back the trophy presented to the American Power-Boat Association by the New York Athletic Club in 1920, which is emblematic of the American Power-Boat Association Handicap Cruiser Championship of America. The trophy was taken to Philadelphia a year ago when Diana representing the Philadelphia Yacht Club, and owned by Commodore A. B. Cartledge, defeated all cruising craft on Long Island Sound. Therefore this year's contest attracted the best which the cities of Philadelphia and New York had in the water.



Part of the racing fleet anchored at the Philadelphia Yacht Club. In the foreground will be seen Spendthrift II and Marilene II

The American Power-Boat Association Cruiser Championship Trophy returns to New York after being held by the Philadelphia Yacht Club for the past year. Nueva of the Shelter Island Yacht Club and Spendthrift II of the Orienta Yacht Club both finished Ahead of Diana, the Defender from the Philadelphia Yacht Club



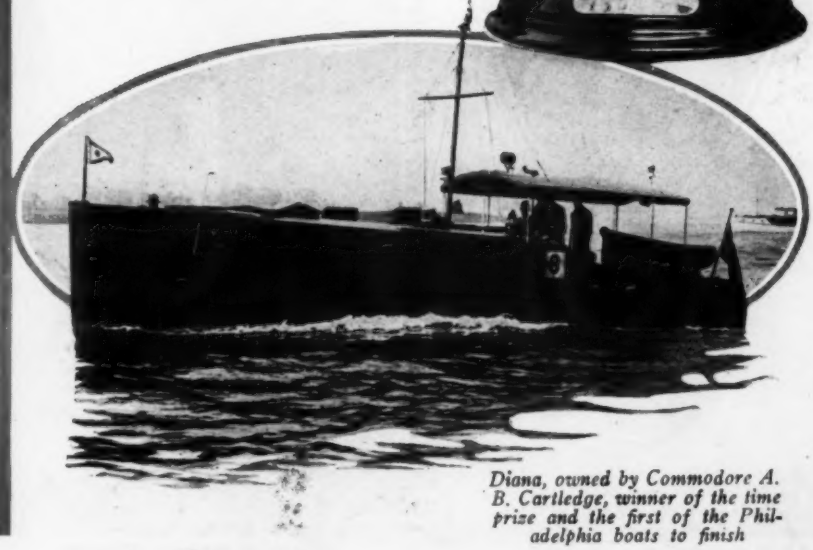
F. W. Horenburger of MoToR BoatinG *and J. C. Vanderslice of Camden, N. J., measuring the boats before the start of the race*

Championship of America

from Philadelphia on the Delaware in dthrift II Finishes Second and Diana Third

The cruisers making the trip to Essington where the Philadelphia Yacht Club is located, included Spendthrift II of the Orienta Yacht Club, the challenger for the trophy. This boat is owned by Commodore W. Roy Halsey, and has been a successful contender in many of the cruiser races in the east during the past few summers. Nueva, owned by T. W. Brigham of the Shelter Island Yacht Club, was another New York boat, which those from the Sound had hopes would be able to bring the trophy back where it originally belonged. Nueva had earlier in the season won such important races as the New York to Atlantic City and return, New York to Block Island, and Middletown to Stonington, Conn., and with this record to her credit,

The championship trophy presented several years ago by the New York Athletic Club



Diana, owned by Commodore A. B. Cartledge, winner of the time prize and the first of the Philadelphia boats to finish

those that should know, believed she should have little trouble in hauling down the colors of the fleet-footed Diana, which is the pride of the Delaware again this year.

Halcyon, owned by S. Miura of the Sheepshead Bay Yacht Club, was one of the fleet which also went from New York to Philadelphia. Halcyon is a 33-foot Elco cruisette and was handled entirely by her owner, assisted by T. Tanka, and this crew of two conclusively proved that the cruisette can be readily and safely navigated and handled by one man. During all the trip through harbors, rivers, and the locks of the Delaware and Raritan Canal no trouble of any kind was experienced by Halcyon or her crew whose handling of her won the admiration of all.

(*Continued on page* 46)

S. Miura of the Sheepshead Bay Yacht Club, New York, owner of Halcyon, an Elco cruisette

E. C. Headley, Chairman of the A. P. B. A. Racing Commission

The flag officers of the Philadelphia Yacht Club under whose auspices the race was run, left to right: Vice-Commodore C. A. Wigmore, Commodore Philip H. Johnson, Rear-Commodore J. W. Myers

Photographs by R. Levick

Sequoia, *An* Auxiliary

An Excellent Type of Cruising Yawl Fitted With a Large Spread of Sail As Well As a Fay & Bowen Engine

ONE of the recently completed yachts is the new auxiliary yawl Sequoia, built for A. E. Wheeler from designs and under the supervision of Tams & King, the New York naval architects. This boat has been fitted with a gaff-less rig, which is much simpler and considerably more efficient than the gaff rig, and the merits of which will sooner or later be recognized by cruising yachtsmen. The boat has an overall length of 45 feet and 3 inches, while it is only 35 feet on the waterline. The hull is substantially constructed of heavy planking and oak frames. Heavy weather will not cause any anxiety to the owner and his guests, as the construction is sufficiently powerful to be safe under all conditions. A tall rig such as this boat carries will show up to advantage since it can catch the light breezes aloft, which ordinarily would pass over the gaff-rigged boats.

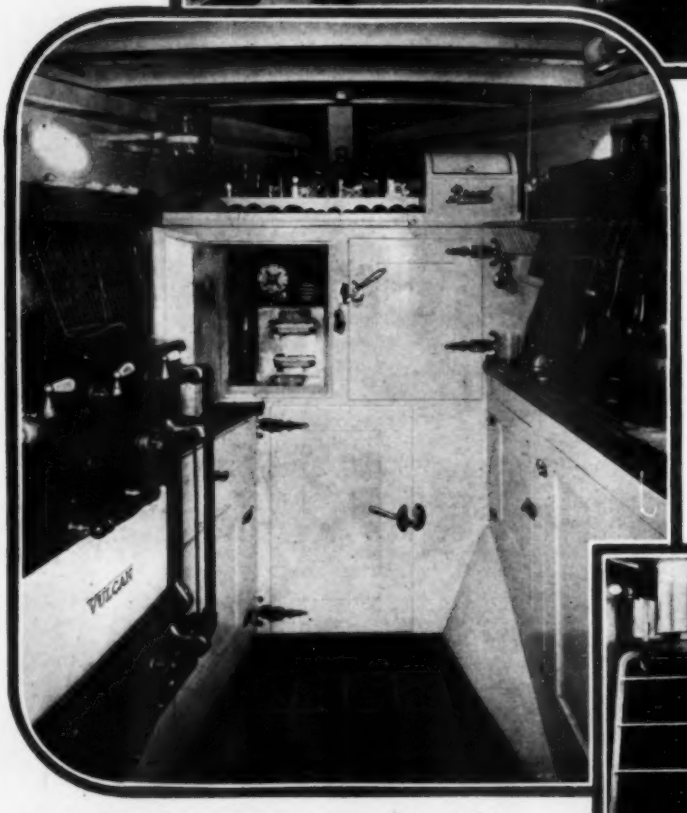
The power plant installed in this boat is a four-cylinder Fay & Bowen engine, developing about 25 horsepower. The tanks are in the bilges, deep down, and with a capacity of 60 gallons, give the boats a cruising capacity of over 400 miles, under power. In the cabin will be found comfortable transom berths for four persons.

Photographs by M. Rosenfeld

The stateroom which Commodore Farmer has designed for his own use is original in many features. The built-in berth is 3 feet high and drawers for clothing and linen are found below

A Floating

Spaciousness and Comfort Have New Cruising House boat Turtle-



One of the show places on Turtletoo is the galley. The Kelvinator refrigerating unit keeps the stores at the proper temperature and manufactures ice for table use. The domestic type gas stove on the port hand is a wonderful improvement over the ordinary cooking installations

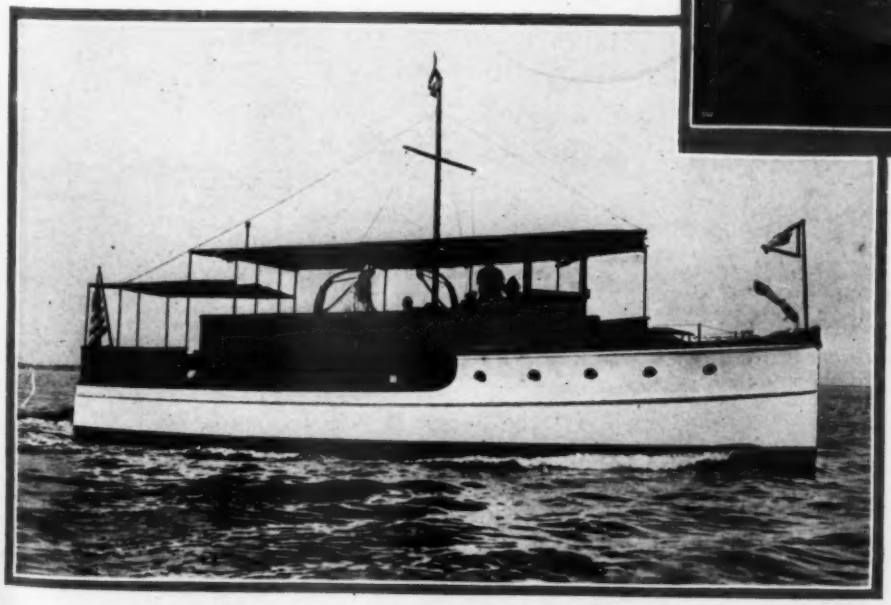
The engine room contains the Thermoline liquified gas tanks for supplying the cooking stove and the hot water heater. A four-cylinder Fay & Bowen engine of 6½ by 8-inch bore and stroke drives the boat while a loop aerial for the radio set is suspended above the engine. A Matthews generating set in the corner supplies all current for lighting and domestic appliances as well as the ice machine

In the saloon forward a table can be set to entertain six to eight persons at a meal, while the folding Pullman berths can be used to provide for the extra guests. A notable feature is the arrangement of all built-in furniture, which is under cut so that it is possible to stand close to and still have foot room to spare

Apartment

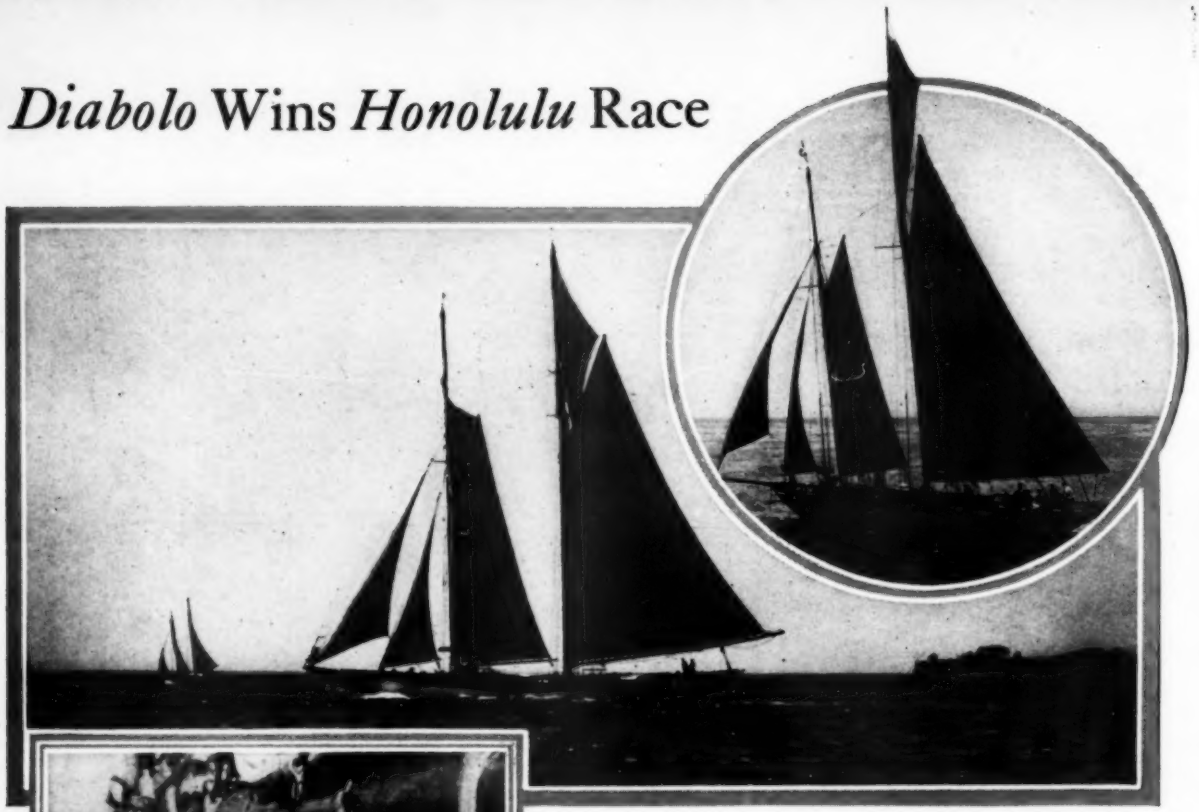
Been Built Into Commodore Farmer's too Which He Uses as a Summer Home

In the bathroom will be found a regulation size tub as well as other essential fixtures. Fresh water is carried in sufficient quantity so that it is available in both hot and cold varieties as desired



Turtletoo was designed and built by the New York Yacht Launch and Engine Company at Morris Heights, N. Y., with the very active co-operation of her owner, T. Farmer, Jr., Commodore of the Yachting Department of the New York Athletic Club, and is 49 feet long with a beam of 13½ feet

Diabolo Wins *Honolulu* Race



Mariner, a 107 foot schooner, owned by L. A. Morris, was first to reach Honolulu. The course was covered in 11 days, 12 hours, and 6 minutes, cutting almost a full day from the previous record

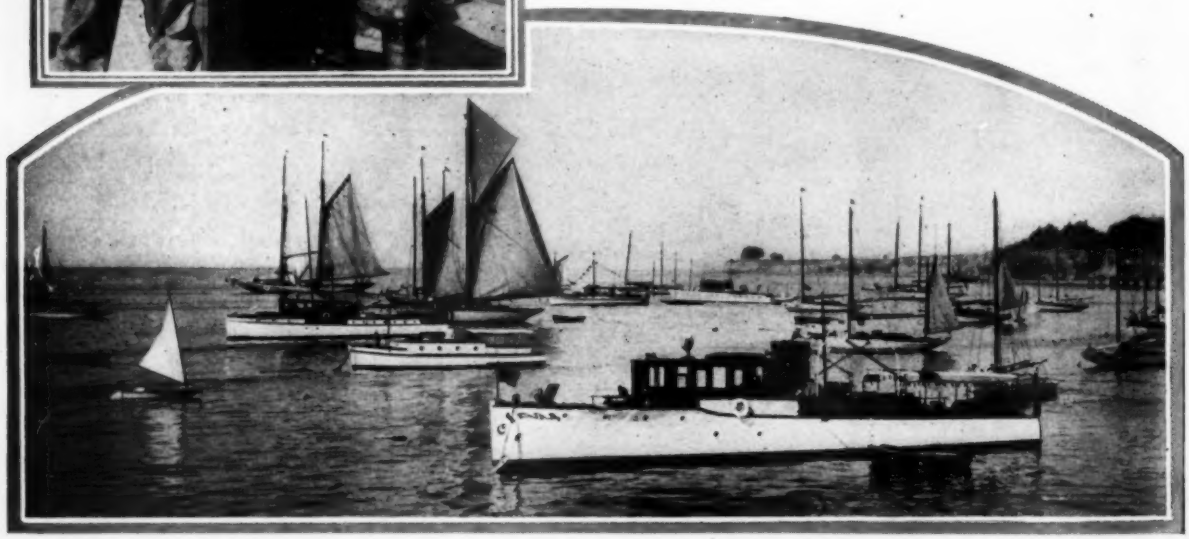
Diabolo, owned by Commodore A. R. Peddar, won the race on corrected time. She beat Mariner because of the heavy time allowance

D. M. Whittier on the schooner Poinsettia. She lost her sails in a gale, and was compelled to return

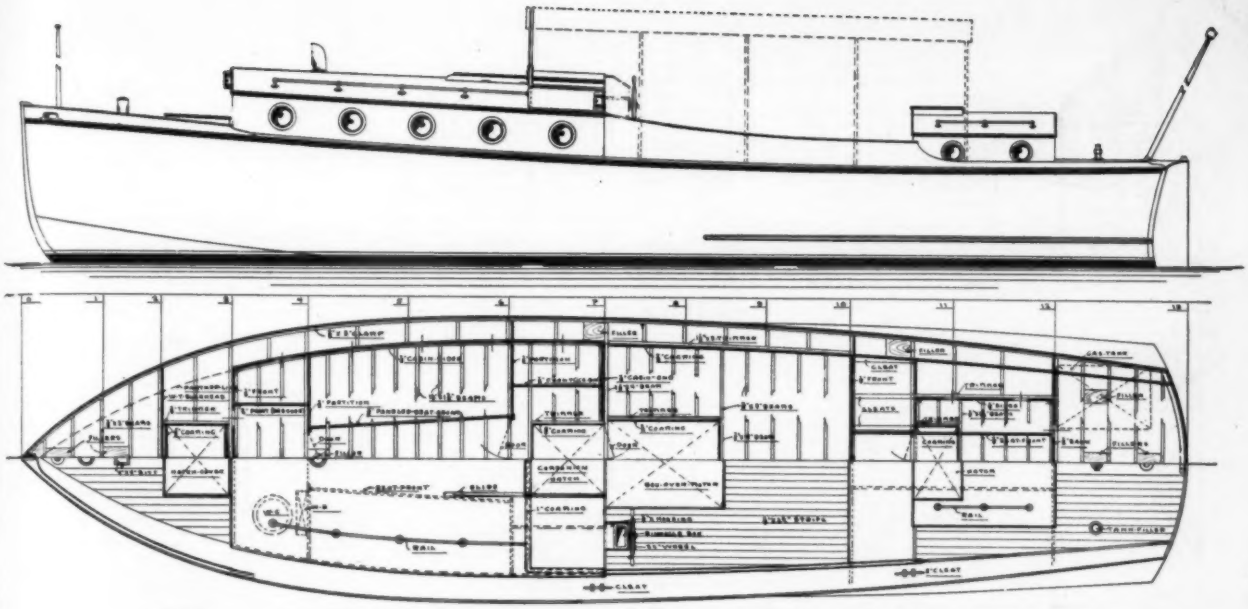
Long Distance Race From Santa Barbara to Honolulu

Best Time for the 2,190 Made By Mariner 276 Hours and 6 Minutes

Order of Finish on Corrected Time as Follows Diabolo, Mariner, Viking and Spindrift



The yachts at anchor before the start of the long race to Honolulu. Tom Mix's famous Hall-Scott powered cruiser is prominent in the foreground



Profile and arrangement plan of the 36-foot double cabin cruiser Florence

Florence, a Double Cabin Cruiser

Complete Set of Drawings and Specifications Which Will Simplify the Work of Building a Fine Up-to-the-Minute Cruiser

Designed Exclusively for MoToR BoatinG

By John L. Hacker

PROBABLY the most desired good point about any boat in these modern times is speed. We hear of forty and fifty mile cruisers and hope some day to ride on something equally fast. This month Mr. Hacker has prepared a wonderfully clever design for a fast cruiser which, while not in the fifty mile class, will far outshine the large majority of its type. This boat has been made 36 feet long and is arranged with double cabins. The larger one forward includes the general living quarters with the galley, ice box, lavatory, and the usual berths. The after cabin is shorter and is practically a stateroom with two berths. It will make a very desirable arrangement for the ladies of the party since they can be assured of privacy and seclusion when desired.

Deck space on the bridge amidships is ample to provide for the outdoor requirements of the entire personnel and should make one of the most attractive features of the boat. There is also at the bow and stern a large expanse of deck space which will prove its value when handling lines or making a mooring. This space will also be appreciated by the young folks in the party as it affords a pleasant place to acquire a coat of tan while the boat is in motion.

Under the bridge deck amidships will be found the machinery installation. This consists of one of the powerful MDR Stearns engines of 100 horse power. A fuel tank of 140 gallons capacity is arranged thwartships in the after end of the engine compartment. The rate of speed at which the engine is turned will naturally influence the speed of the boat. At approximately 1,000 revolutions and driving a three-bladed propeller of 20 by 20 inches or perhaps 22 by 18 inches, a speed of from 14 to 15 miles can be reasonably expected.

A boat of the size and accommodations is probably much larger than can be constructed by the amateur unaided. A job of this kind requires a little more plant than is possessed by the amateur builder and it is probable that the professional builder will be called on for a job of this size. Any amateur builder who feels that he is able to tackle a job of this magnitude is at the same time sufficiently well acquainted with boat building methods not to require any explicit instruction for undertaking the work.

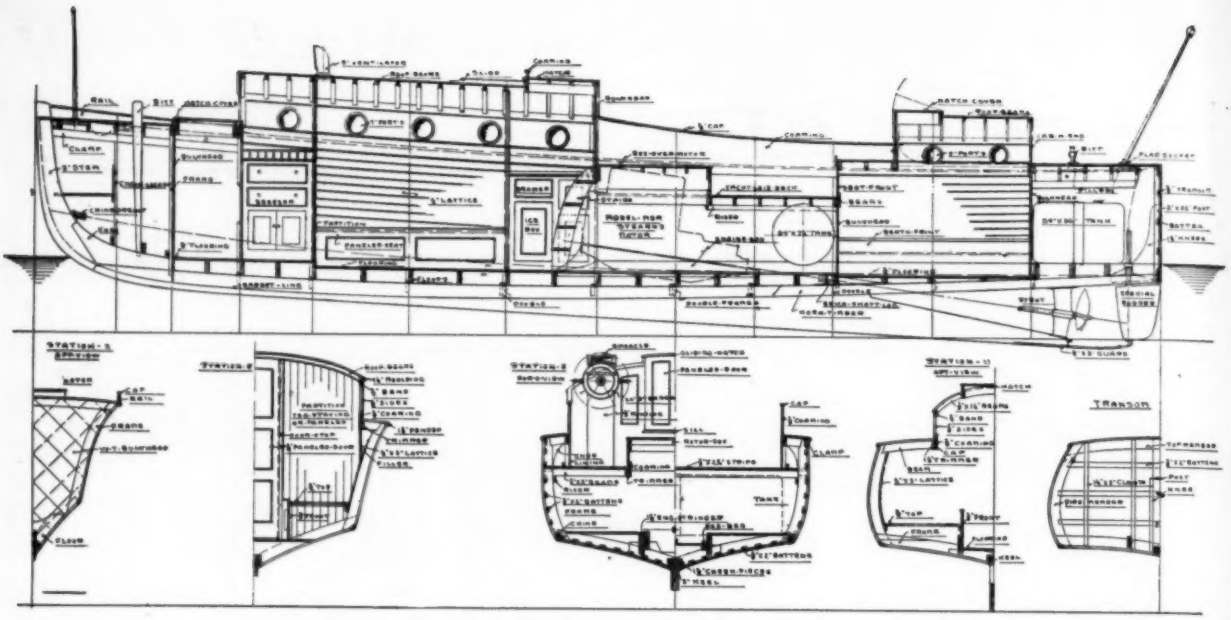
The plans and specifications which are published herewith are identical in every respect with what the naval architect would furnish on an order for a design of this kind, and any competent boat builder should be able to build and complete a boat like this without further instruction.

A word of caution is advisable. Much thought and effort has been expended in perfecting this design and amateur builders are warned against attempting improvements or additions to the design. This boat has been worked up to meet certain specific requirements. It will not do to reduce or enlarge it. Neither will it work with a Ford engine. Build strictly according to the design and specifications and you will be perfectly satisfied. Introduce any radical changes and you will be doomed to failure. The designer or the Editor of MoToR BoatinG will be very glad to explain any doubtful points in the design or clear up any difficulties which may arise during the process of building a boat. A complete set of specifications for the finished job follow:

Specifications

GENERAL: It is understood that all materials and equipment which are to enter into the construction of this vessel shall be of the very best kind for the various purposes intended. All labor shall be performed in a neat and workmanlike manner and in accordance with the plans and specifications herewith. No deviation shall be made from these, without the full consent of either owner or architect. All materials shall be of first class quality and timber shall be without shakes, sap, or other imperfections. Specifications cover a complete job and anything shown on the plans, and not mentioned in the specifications, or vice versa, shall be considered as part of the contract.

STEM AND KNEE: Stem is to be sawn from 3-inch white oak. To be of clear stock and free from imperfections. To be shaped as per plan and through bolted to a knee of the same stock, shaped as per plan, with four ½-inch galvanized bolts, which are to be let into the outside of the stem and wood plugged. Stem and knee to be properly shaped and rabbeted to suit planking.



Construction plan and sections at important points showing details

KEEL AND STERN TIMBER: Keel to be of 3-inch white oak. It is to be of perfectly sound stock and shaped as per plan. To be preferably in a single length, or joined with a ship-scarph of not less than 30 inches length, and through bolted with four ½-inch galvanized bolts. Fasten stem to the keel in a like manner as to keel and properly rabbet. There will be a 1⅛-inch cheek piece of white oak well fastened on each side of the keel. With both galvanized screws and bolts, and to be properly rabbeted with the stem. Horn timber to be 4 by 5-inch white oak, properly rabbeted and drift fastened to the keel with ½-inch galvanized rod over washers.

SHAFT LOG: This will be of the Erico self-aligning type, and suited for a 1½-inch shaft. It is to be properly aligned and securely bolted to the keel with a gasket of canvas laid in heavy paint or marine glue.

STRUT: This is to be shaped approximately as per plan and be of cast bronze. Securely bolt fasten to the horn timber and keel and babbitt lined after the shaft has been installed.

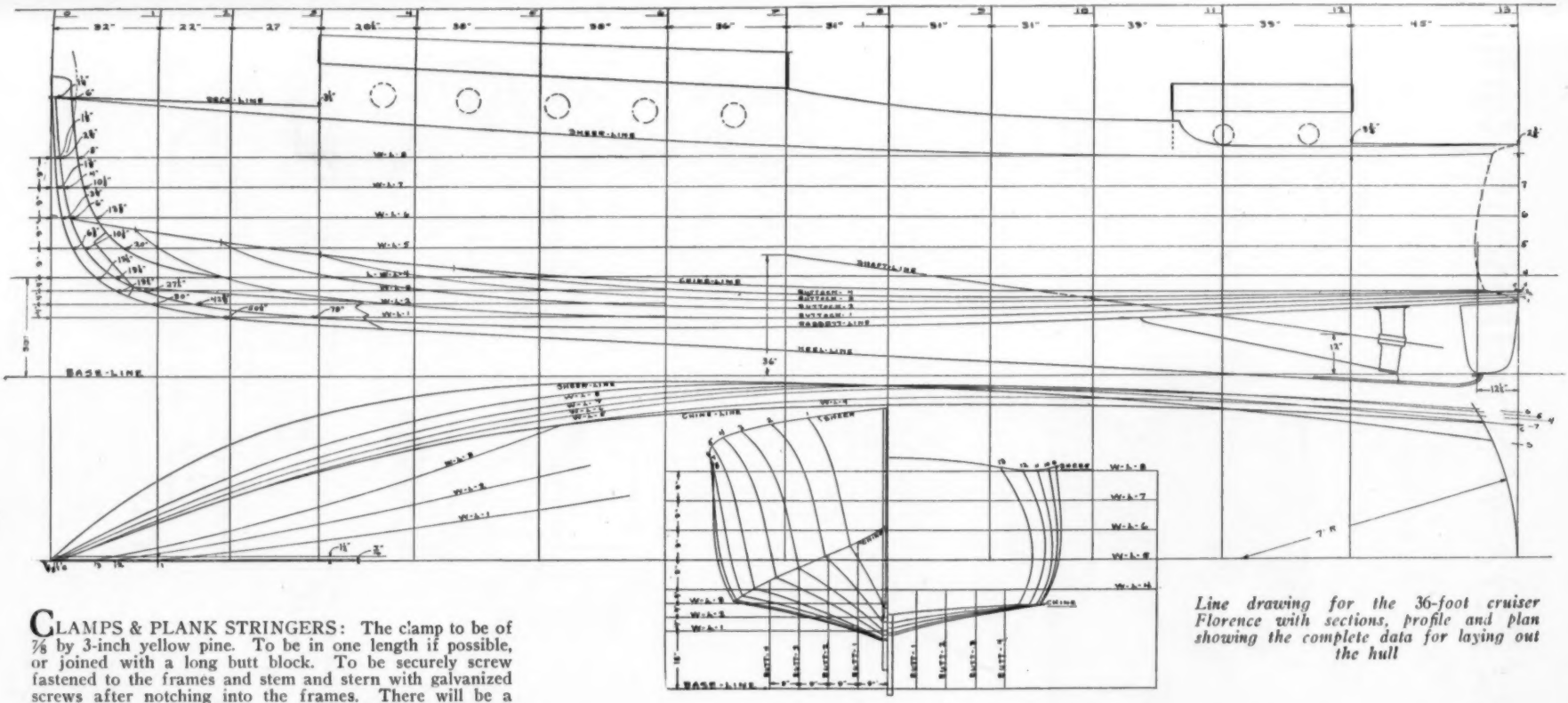
TRANSOM: Transom frame to be made of white oak with an upper and lower member sawn to a proper radius of 1¼-inch stock. It is to have side members of the same material and thickness, also sawn to shape. These members are to be halved into each other and securely fastened with galvanized screws. It is to have a stern post 2 by 5½ inches which shall be halved into the frame and screw fastened. The frame is to be securely mounted on the keel with 1½-inch oak knee on each side. The transom is to be covered with ⅞-inch white oak or Philippine mahogany. This is to be in wide widths with a seam batten 1½ by 2 inches which shall be securely screw fastened to the frame and cleats. All to be screw fastened and all exposed holes to be wood plugged. The outside to be neatly trimmed for the planking.

FRAMES: Station frames are to be sawn to proper form from 1⅛-inch white oak. They are to consist of a side and bottom member and to be joined with an oak floor tie of 1½-inch thickness, and 2-inch thickness in the vicinity of the engine bed. Side members are to be approximately 4 inches at the heel and 3½ inches at the top. The bottom members 4 inches throughout. These are to be halved at the chine and reinforced with a piece of 1½ by 2-inch stock, bolted to them, and fitting close to the chine. This member is to be through bolted to the chine. There will be an intermediate steam bent frame ⅞ by 1½ inches extending from the keel to sheer on each side and tied with a 1½-inch oak floor. Fill out to radius at the chine and fill in between the battens.

CHINES: These are to consist of an inner and outer member. The inner to be shaped from 1½ to 4-inch fir or yellow pine preferably in one length, or joined with a butt block not less than 24 inches long. This is to be properly shaped and through bolted to the frame tie piece with two 5/16-inch galvanized bolts. There will be a substantial breast hook at the stem and a knee on each side of the transom frame. The outer chine to be shaped from 1½ by 2½-inch white oak and securely fastened to the inner chine and through rivet or bolt fastened to each bent frame. All outside holes are wood plugged.

STATION-HEIGTHS	0	1	2	3	4	5	6	7	8	9	10	11	12	13
KEEL		1-9-3	1-5-4	1-3-4	1-1-6	0-11-5	STRAIGHT	LINE	TO	——	0-0-0			
RABBETT		2-0-3	1-8-1	1-5-5	1-4-1	1-2-7	1-2-4	1-2-5	1-3-1	1-4-0	1-4-7	1-6-3	1-8-0	1-10-4
CHINE	4-1-0	3-7-4	3-4-3	3-0-7	2-9-7	2-6-6	2-4-3	2-2-7	2-2-1	2-1-6	2-1-5	2-1-3	2-1-3	2-1-3
SHEER	7-0-5	6-9-7	6-8-1	6-6-1	6-3-7	6-1-3	5-11-1	5-9-2	5-8-0	6-7-0	6-6-3	5-6-0	6-6-1	5-6-5
DECK		6-11-4	6-10-6	6-9-6									5-9-6	5-9-3
BUTTOCK № 1		3-3-2	2-5-4	2-0-1	1-9-2	1-6-7	1-5-7	1-5-3	1-5-6	1-6-2	1-7-0	1-8-1	1-9-4	1-11-3
" " - 2			3-3-0	2-6-6	2-2-3	1-11-0	1-9-1	1-8-3	1-8-2	1-8-4	1-9-0	1-9-6	1-10-6	2-0-0
" " - 3					2-6-5	2-2-2	1-11-7	1-10-6	1-10-3	1-10-3	1-10-4	1-11-0	1-11-5	2-0-5
" " " 4						2-5-3	2-2-2	2-0-5	2-0-0	1-11-6	1-11-7	2-0-0	2-0-4	2-1-1
HALF-BREADTHS														
CHINE		0-11-4	1-6-7	2-2-7	2-9-5	4-3-7	3-7-6	3-6-7	3-10-4	3-10-6	3-10-2	3-9-1	3-7-1	3-3-7
SHEER		2-0-1	2-11-0	3-7-7	4-1-4	4-8-0	4-5-6	4-5-2	4-4-2	4-2-7	4-0-6	3-9-2	3-4-7	2-10-2
WATER-LINE № 1					0-3-2									
" " " 2			0-2-6	0-6-0	0-9-7									
" " " 3			0-5-6	0-11-0	1-5-0									
" " " 4		0-3-5	0-9-2	1-4-4	2-1-5	3-2-7	3-8-5	3-11-4	4-0-3	4-1-0	4-0-4	3-11-3	3-9-1	3-5-7
" " " 5		0-8-7	1-5-6	2-3-2	2-10-6	3-6-0	3-11-2	4-2-3	4-3-1	4-3-5	4-2-7	4-1-5	3-11-3	3-7-6
" " " 6		1-0-2	1-8-5	2-5-3	3-0-5	3-8-0	4-0-7	4-3-5	4-4-2	4-4-2	4-3-2	4-1-4	3-11-2	3-6-7
" " " 7		1-2-1	1-10-3	2-7-3	3-2-6	3-10-1	4-2-4	4-4-3	4-4-3	4-3-6	4-2-3	3-11-6	3-8-6	3-3-6
" " " 8		1-4-2	2-1-2	2-10-5	3-6-1	4-1-0	4-4-3	4-5-0	4-4-3	4-2-7	4-0-7	3-9-1	3-4-7	2-10-6
ALL-DIMENSION-GIVEN-IN-FEET-INCHES-EIGHTHS-TO-OUTSIDE-OF-PLANKING-FROM-BASE-LINE														

Table of offsets for the 36-foot double cabin cruiser Florence



Line drawing for the 36-foot cruiser Florence with sections, profile and plan showing the complete data for laying out the hull

CLAMPS & PLANK STRINGERS: The clamp to be of ⅞ by 3-inch yellow pine. To be in one length if possible, or joined with a long butt block. To be securely screw fastened to the frames and stem and stern with galvanized screws after notching into the frames. There will be a substantial breast hook at the stem and a knee on each side at the stern. Plank battens to be of ⅞ by 2-inch yellow pine in a single length if possible, or joined with a butt block. They are to be let in flush with the frames and securely screw fastened.

ENGINE BED & STRINGERS: Engine bed is to be shaped from 3-inch white oak, notched in over the frame floors and through bolted to the same with ½-inch galvanized bolts. They are to be spaced to suit the motor to be installed. They are further to be reinforced with 1¾-inch fir stringers beginning at Station No. 6 and extending through to Station No. 12. They are to notch over the floors in the same manner as the engine bed and to be through bolted to the floors and also to the engine bed.

DECK BEAMS & TRIM: All deck beams to be of ⅞ by 3-inch white oak. They are to be sawn to proper radius and securely fastened to the frames and clamps with galvanized screws. The cockpit beams proper are to be of the same size and supported and fastened to a 1 by 3-inch riser fastened to the frames. The framing for the hatch on the forward deck will be ⅞ by 3 inches. The hatch in the engine cockpit to be ⅞ by 3-inch white oak. Insert blocks for cleats, etc., as shown on the plan. There will be a ⅞ by 3-inch oak trimmer securely screw fastened to the beams with screws.

DECKING: The covering boards are to be of oak or mahogany, ⅞ inch in thickness. The center plank will be of the same material. The balance of the decking to be ⅞ by 3-inch white pine strips. All deckings to be bored and wood plugged. Seams are to be lightly caulked with spun cotton and to be filled with black marine glue. Cockpit: Flooring will be also yacht laid and of 1 by 3-inch strips. It is to be caulked and seamed filled in a similar manner to the decking. All decking is to be galvanized nail fastened with two fastenings in each strip. The covering boards should be screw fastened.

FORWARD CABIN: This is to have a coaming of ⅞-inch mahogany as shown on the plan, securely screw fastened and wood plugged. There will be a ⅞-inch cabin side as shown, which shall be fastened to rabbeted corner posts and coamings with screws. Coamings to be laid on the trimmer with canvas and marine glue, to assure against leakage. The cabin end to be a ⅞-inch panel or built up of ¾ by 3-inch T & G mahogany, which shall be fastened to rabbeted corner and door frame. Allow 24 inches for a companionway. There will be a roof band of ¾-inch mahogany, screw fastened to the side. There will also be a ⅝ by 3-inch piece fastened to the side from the inside centers between port lights. Coamings, band, and pieces to have corners lightly rounded. T & G stock to have ⅛ or 3/32-inch V'd edge. These are to be of 1⅛ by 1⅜-inch white oak or mahogany, let into the band and securely fastened. Allow for companionway with a ¾-inch framing and cover the roof with ⅝-inch white pine T & G ceiling. (*Continued on page* 114)

A *One Hundred Percent* Small Boat Radio

By Raymond Francis Yates

Institute of Radio Engineers

Illustration of the relatively few parts needed for the construction of a flivver radio set, B is a 201 vacuum tube, K a V.T. socket, J a B battery, D are spider web coils, C a variable condenser, E, F, and G are fixed condensers, H is the honeycomb coil, I the phones, and A the rheostat

Flivver Radio Outfit Costing Less Than $25 Does the Work of An Expensive Three Tube Set—Ideal For Small Boat Use

THE small boat owner who cannot afford a costly radio outfit to add to his pleasure of boating need not despair. The little outfit described in this article has been in use by the writer for some time and he can conscientiously claim it to be *the* equipment for motor boat use. It requires no storage battery, is light in weight, requires no extensive aerial system and no troublesome ground connections are necessary. What more could be desired for the small boat receiver? Furthermore, it will operate on a loud speaker when within a reasonable distance from a broadcasting station.

The outfit is of the super-regenerative type, but this should in no way disturb the ambitious builder, since it is super-regenerative stripped of all its frills and annoying dingbats. It is easy to operate, since there is only one control, and its cost comes within the range of even the most modest pocketbook. The circuit was developed by Walter Van B. Roberts, a capable radio experimenter of Princeton University. Mr. Roberts has succeeded in taking all the bugs out of a circuit that has heretofore been quite beyond the amateur fan.

The list of materials for this ether flivver follows:

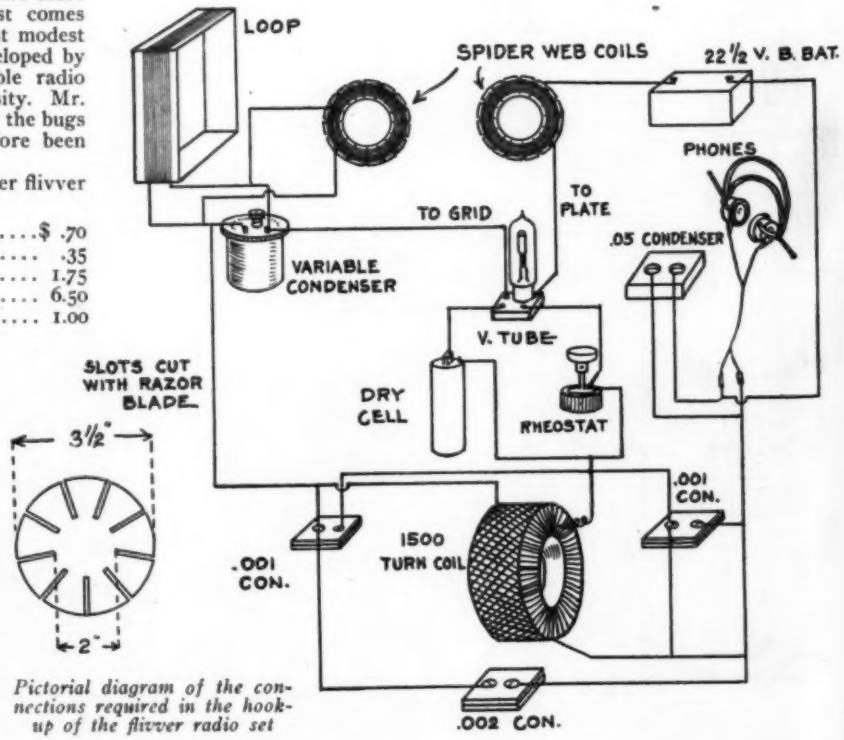
2	.001 Mfd. micadon condensers	$ .70
1	.002 " " "	.35
1	1500 turn honeycomb coil	1.75
1	Radiotron, 201-A	6.50
1	20 Ohm rheostat	1.00
1	Vacuum tube socket	.75
2	Dry cells	.70
1	B battery, 22½ volts	1.50
1	Pair phones	5.00
1	.105 fixed condenser	2.00
1	23-plate condenser	2.00

With these materials in hand it will first be necessary to do a little winding in making two spider-web coils. This is a simple job, however, and should in no way feaze the true motor boat tinker. The dimensions of the forms are shown in the sketch. These can be cut out of three-ply cardboard, or any suitable material with enough strength to hold the wire. The method of winding is also illustrated, but on every turn it will be necessary to skip two of the teeth so that the wire will be staggered first one way and then the other. These coils are wound to within ⅛ inch of the periphery of the forms, and No. 28 double cotton covered wire is used. It is not advisable to put shellac upon them, since this may be disastrous to the results. If the ends of the wire are anchored by puncturing holes in the cardboard forms no trouble will be had with the wire coming loose.

With this job done everything is ready for the connections.

The outfit can be mounted on a small flat board or in a box. Ordinary flexible lamp cord will be suitable for

(*Continued on page 70*)



Pictorial diagram of the connections required in the hook-up of the flivver radio set

SMALL MOTOR BOATS

Their Care, Construction and Equipment

A Monthly Prize Contest Conducted by Motor Boatmen

Questions Submitted for the November Prize Contest

1. Describe and illustrate one or more good methods of installing running lights, both oil and electric, on small cruisers.
(Submitted by V. L. S., Wilmington, Del.)

2. Give all practical details and precautions desirable in laying up a motor boat out of doors for the winter, under both fresh and salt water conditions.
(Submitted by F. W. S., Richmond, Va.)

Canvas Top Awnings for Small Cruisers

An Essential Addition to the Cruising Comforts On Boats Which Can Be Readily Constructed and Fitted By the Owner

Answers to the Following Question Published in the July Issue

"Give drawings and explanations showing the construction of a canvas top for a small raised-deck or cabin cruiser."

A Perfectly Dry Awning

(The Prize-Winning Answer)

THE canvas top shown in the drawing has been in use on the cruiser Edna M II since 1919 and has proven very serviceable, and, together with the side curtains, also shown, keeps the cockpit perfectly dry in wet weather.

The pipe frame is made of ¾-inch galvanized pipe screwed to floor flanges on cabin top and on gunwales. The lower ends of the stanchions are bent to suit the angle of cabin top or gunwale, so that the flanges lay fair. The side horizontals of the pipe frame are screwed rigidly into the tees at the top of the stanchions, but in order to avoid using unions, the cross frames are provided with tees reamed out to slide over the horizontal side members. They are slid into place as the pipe frame is erected. The bending of ¾-inch pipe might seem difficult to some, but it is really a simple matter when a crotch between some heavy wharf timbers or a tree is at hand. Bend a little at a time using all the leverage possible, that is, grip the pipe as far away as possible from the point of bending and you will be surprised with what little effort it can be made to obey your wishes.

When the pipe frame is erected run side stringers of wood ⅞ inches thick by 3 inches wide down both sides at the top, fastening same with galvanized pipe straps to each stanchion. Put a filler piece of wood about ¼ or ⅜ inches thick between the pipe straps and the stringer as shown in the sketch so as to allow room for side curtains to be run between the stringer and the stanchions.

The forward and after ends should also be provided with wood cross pieces cut to fit the crown of the awning. These pieces, also shown in sketch, are attached to the ends of the side stringers by means of corner angles, and galvanized screws. Thus a wood edging is formed all around the awning top which not only finishes off the awning but readily lends itself to fastening side curtains, etc.

The usual wood strips about ⅜ inches thick by about 1½ inches wide are spaced about 9 inches apart on the cross frames, running fore and aft, and are nailed to the wood cross pieces at the forward and after ends of the awning. These pieces are also shown in the drawing and prevent canvas sagging between the pipe frames.

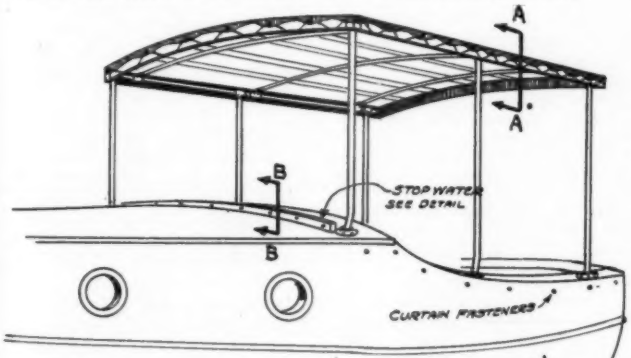
A very rigid and substantial awning top is secured by this method.

The side curtains attach on the inside of the wood stringers and cross members by means of grommets and screw eyes and lap over the sides of the boat all around. At the forward end of the awning, the front drop curtain fastens to a stop-water attached to the cabin top as shown in sketch, thus shedding all rain water or spray over the sides of the boat. Patent curtain fasteners are used on this stop-water and around the sides of the boat, as shown in drawing, and are similar to those used on automobile side curtains.

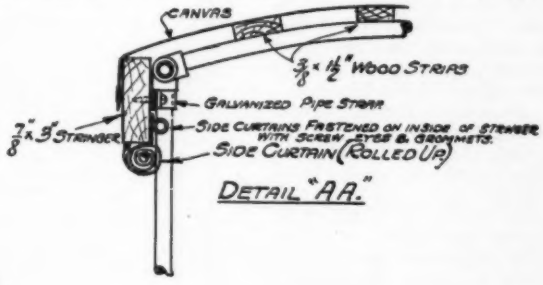
To assure a rain or spray tight connection the front drop curtain continues aft at the sides of the boat for a distance of about 12 inches overlapping the side curtains. The sides are made in one continuous piece and have no joints.

While a back curtain is not absolutely necessary, it is nice to have one and in very wet weather it is appreciated. It rolls up the same as the side and front curtains, but is laced to the aft stanchions, no particular pains being taken to make it entirely rain tight.

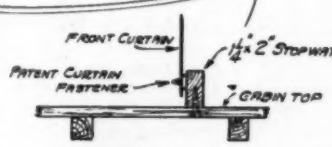
The canvas on the top should be 12 ounce waterproof



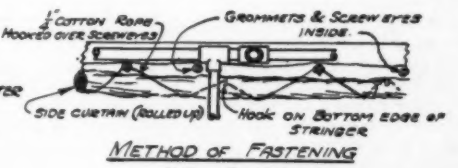
The awning frame suggested by W. E. M. is strong and substantial and at the same time easily put together and waterproof waterproof



DETAIL "AA."



DETAIL BB

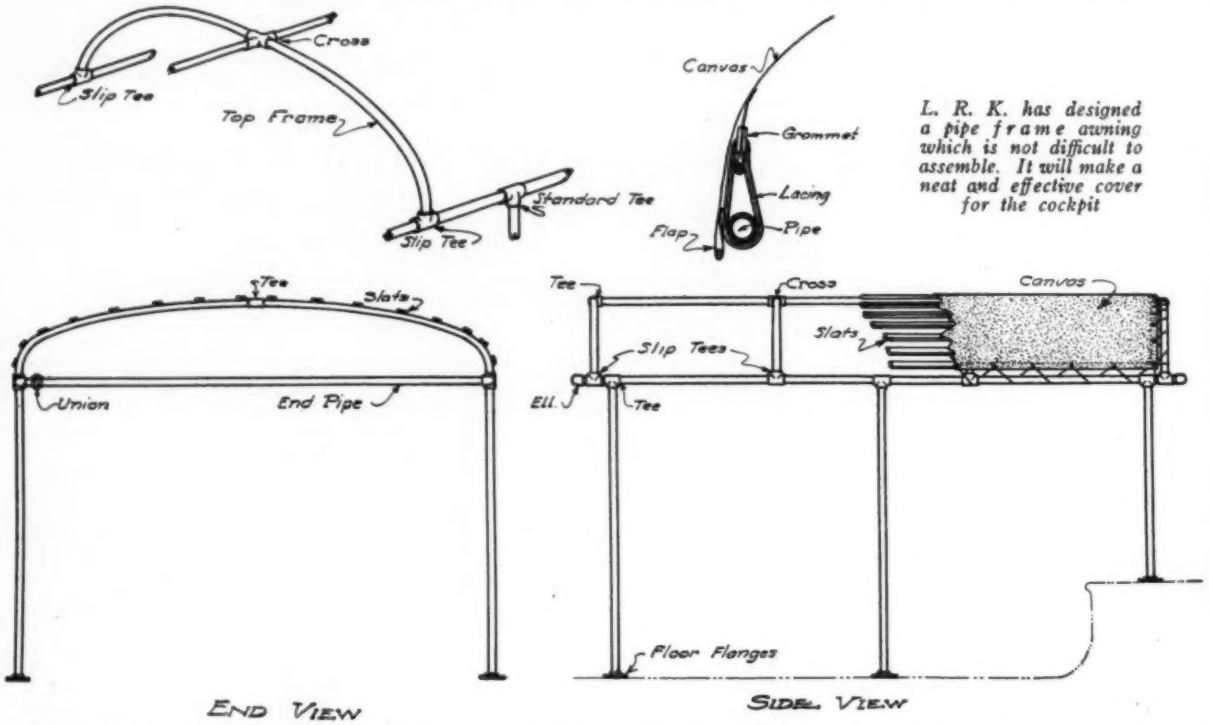


METHOD OF FASTENING SIDE CURTAINS

duck and should lap over the wood edging about one inch. It may be tacked on all around, but from a nautical point of view, grommets and marlin lacing looks much more shipshape, and I have attempted to show this in the drawing.

The lacing passes through the grommets then under the wood strips or stringers to screw-eyes on the inside of the stringers (the same screw-eyes that hold the side curtains) and then back again to the next grommet.

W. E. M., Philadelphia, Pa.



L. R. K. has designed a pipe frame awning which is not difficult to assemble. It will make a neat and effective cover for the cockpit

END VIEW

SIDE VIEW

Substantial Pipe Frame Supports

A PIPE frame with canvas cover will make a substantial and serviceable top and can be easily made of standard material.

For the frame, use galvanized iron pipe and fittings (brass if desired), nothing less than ½ inch standard pipe size, and preferably ¾ inch, as the frame will be called upon to act as a handhold when swinging over the side of the boat. The frame is constructed in three parts, namely, the two sides, which are alike, and the top.

Determine the number of vertical pipes you will require, placing them 3 to 4 feet apart, and cut and make up the frame for one side, with the fittings screwed together temporarily only. Try it in position to be sure you have it right. All standard screw fittings are used in the side frames. Make the other side similar and connect them together with the cross members at each end, which connect with standard unions, to avoid left-hand threads. The floor flanges are not to be fastened to the boat as yet.

Next construct the top frame, consisting of a run of pipe having a cross at the points where the bows come, and a tee for each end bow. There should be one more bow than there are vertical pipes in the side frames, so that the fittings will not interfere. Bend the half-bows to the desired curve (an electrician's pipe bender will be helpful) and screw them into the tees and crosses. To the outer end of each bow, screw a slip tee, that is a standard tee having only the side outlet threaded and the run reamed out to slip over the pipe loosely. These are standard fittings, used mostly for awning work. The top frame is to be constructed tightly and permanently.

The side frames are now to be taken apart and assembled permanently, slipping the horizontal pipes through the slip tees as you come to them. The elbows at the ends will keep the top frame from slipping back and forth.

Bolt the pipe flanges to the boat if possible, in preference to using screws. The frame is thus completed without using left-hand threads and fittings which are hard to get hold of.

Cover the top with wood slats—spaced about 3 inches apart on the sharp curves, and about 6 to 8 inches as the curve flattens out. Slats about 1¼ by ½ inches are about right. Fasten them with pipe straps, or simple rope lacing.

Use waterproof canvas for the cover, having a hem all around in which a rope is placed. Put grommets in this hem about 6 inches centers. Lace the cover, through the grommets to the pipe frame with 3/16 or ¼ inch cotton rope. This lacing can be adjusted as time requires, to take care of any shrinkage or stretching, thus keeping the cover tightly stretched.

If desired, a flap can be attached to fall down over the grommets, covering the grommets and lacing, and give a neater appearance to same. Don't finish this flap with scallops like a porch awning. Side and end curtains can be added as required.

L. R. K., Bethlehem, Pa.

A letter of appreciation of the service afforded to a prize winner in MoToR BoatinG's *Prize Contest by the E. J. Willis Company, who supply much of the merchandise selected by contributors to this department.*

Mr. C. F. Chapman, Editor:

"The material ordered from the E. J. Willis Company in my name, on account of the prize won in the July contest, has been received.

"I certainly thank you all, as these prizes have been of great help in equipping my little ship. The goods have all arrived in good time and in perfect condition, which fact surely speaks well for your organization, as well as the firms shipping the merchandise.

"If at any time either your staff or yourself wishes any favors in this section of the country, do not fail to call upon me. With best wishes for a pleasant voyage." Yours very truly,

V. L. S.

An Up-to-Date Chart File

A Solution to One of the Most Annoying Problems of the Small Boat Which Shows How to Take Care of the Charts

Answers to the Following Question Published in the July Issue

"Describe the construction of a chart case from which any wanted chart may be obtained quickly and easily"

A Vertical File Chart Cabinet

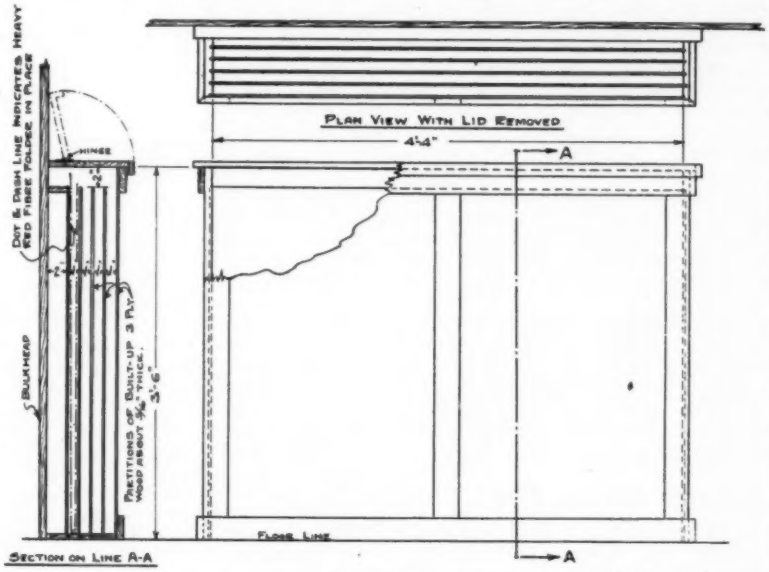
(The Prize Winning Answer)

THE chart case shown in the accompanying sketch allows storing of the charts unrolled, a feature which will be greatly appreciated by anyone who has been in the habit of keeping their maps in tubes. The case can be placed against a bulkhead if space will permit or could be built in longitudinally with the side of the boat. As will be noted, the case is divided into long, vertical compartments by means of partitions of built up 3-ply wood. This material is used extensively for paneling of house interiors and can be obtained from almost any big lumber or millwork company.

Each compartment accommodates a large folder, preferably made of red fibre which stands severe handling, and in which the charts are filed. The tops of the folders should extend about 1½ inches above the tops of the partitions to allow a finger hold also a space upon which the numbers of the charts or names of districts can be indicated.

Other than the partitions, the balance of the wood entering into the construction of the case can be about ¾ or ⅞ inches thick, and of a kind to match present woodwork. The partitions should be painted or varnished on both sides before assembling to prevent warping due to dampness. The sizes as indicated will accommodate the largest chart unfolded, as listed in the U. S. Coast Geodetic Survey Catalog of Navigation charts. Of course if folding the charts is no serious objection, a much smaller case can be used.

H. A. M., Philadelphia, Pa.



A vertical file cabinet for charts designed by H. A. M. which keeps them flat and easily accessible.

A Quick Reference Chart Case

WHEN you cruise away from local waters you should carry charts of the waters to be sailed, and use them. Rolled up and put away in a locker is not the way to carry charts. They should be kept handy so that they will be used to avoid trouble, not to get out of it. Any boat can accommodate the familiar tin case but this container leaves the charts in poor shape for ready reference and the particular chart desired is always in the middle of the roll.

For small boats unable to accommodate a chart case of larger dimensions it seems advisable to fold the charts once each way and file them as explained later. In folding, first mark out the folds on the back, and, with a narrow brush, moisten where the folds come, and carefully fold while damp, using a straight edge in starting. With a little practice the folding can be done without appreciably distorting the chart or breaking the paper.

Charts filed in a case in a manner similar to the card index system, would be very easily found and replaced in the same order, and a large number of charts could be kept in a small space. The charts would always be flat and no trouble would be experienced in using them as with the rolled chart.

The largest charts are 26 inches by 48 inches. If there is a place for this size case, make 27 inches by 49 inches by 2 inches thick, the inside dimensions, or proportion according to your charts and space, folding the larger ones if necessary.

Made of galvanized iron or copper with a tight-fitting cover, the case will be practically waterproof. Constructed of wood, one-inch ends and ply-board sides, the case can be hinged to a bulkhead at the bottom and fitted with jack chains to drop down, thus making a convenient chart table, as well as case.

The construction is within the capacity of anyone at all familiar with tools. Mitre the two sides and the bottom and nail together with finishing nails, leaving the sides a little long for finishing. Cut the ply board for the front

Rules for the Prize Contest

ANSWERS to the questions on page 35 for the November issue, addressed to the editor of MoToR BoatinG, 119 West 40th St., New York, must be (a) in our hands on or before September 25, (b) about 500 words long, (c) written on one side of the paper only, (d) accompanied by the senders' names and addresses.

The name will be withheld and initials used.

QUESTIONS for the next contest must reach us on or before September 20. The editor reserves the right to make such changes and suggestions in the accepted answers as he may deem necessary.

The prizes are: For each of the best answers to the questions on page 35, any article or articles sold by an advertiser advertising in the current issue of MoToR BoatinG of which the advertised price does not exceed $25, or a credit of $25 on any article which sells for more than that amount. There are two prizes—one for each question—but a contestant need send in an answer to only one if he does not care to answer both.

For answers we print that do not win a prize we pay space rates.

For each of the questions selected for use in the following month's contest, any article or articles sold by an advertiser advertising in this issue of MoToR BoatinG of which the advertised price does not exceed $5, or a credit of $5 on any article which sells for more than that amount.

All details connected with the ordering of the prizes selected by the winners must be handled by us. The winners should be particular to specify from which advertisers they desire to have their prizes ordered.

and back to exact size using a fine saw and sharp plane for smoothing. Screw or nail the ply boards to the ends and you have the case, unless the front is to be paneled and the sides moulded to correspond with the cabin trim. A neater finish will result if the sides and bottom are rabbeted the thickness of the ply board, and the joint moulded.

Space off the ends into about twenty equal parts and at each division make a saw cut ¼ inch deep. At the bottom of the cut, on the outside drill a shallow hole of small diameter. For small charts screw a block to the back and slot it the same as the ends.

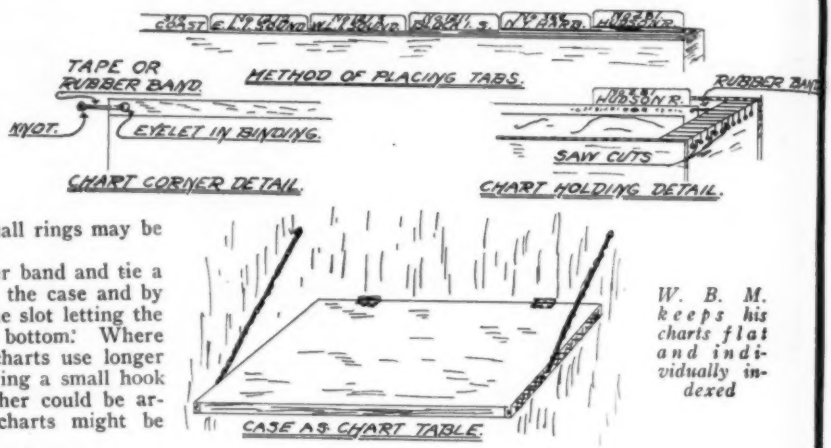
A cover hinged to the front and held closed by hooks at each end will keep out dust and miscellaneous papers.

The charts will need to be pressed or ironed out flat and a reinforcing tape should be glued to the upper edge. A light imitation leather cut in strips 1½ inches wide is excellent material for this purpose. Eyelets near the ends of the tape are best but small rings may be attached to answer the same purpose.

Through each eyelet loop a small rubber band and tie a knot in the free end. Place the chart in the case and by stretching the elastic slip each end into the slot letting the knot come up against the recess at the bottom. Where there is much difference in the size of charts use longer bands, or loop them together. Cords having a small hook at one end and a rubber band at the other could be arranged to hold small charts, or two charts might be hooked together.

After the charts are located to the best advantage make index tabs by folding strong stiff paper, and pasting them to the reinforcing tape in such positions that all tabs can be seen at once. Letter the chart number and name on the tab with waterproof ink and give them a coat of spar varnish for protection.

Charts could be mounted separately on cardboard if desired or mounted waterproofed with a coat of spar varnish. By using a soft pencil the work on the chart would be readily erased with a damp cloth, or if done before varnishing made permanent by the varnish. Pasting the charts together back to back would double the capacity of the case.—W. B. M., Newburgh, N. Y.



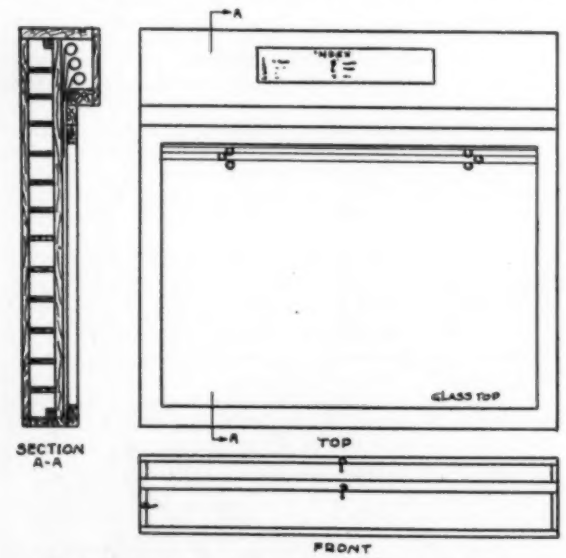
W. B. M. keeps his charts flat and individually indexed

Keeps Charts Rolled Up

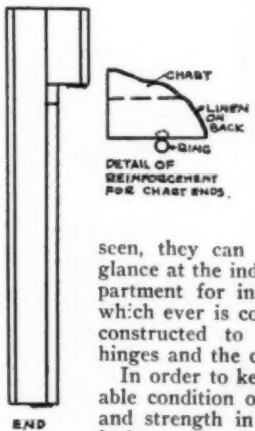
EASY and quick access to charts as well as prevention from being torn or soiled is essential aboard the shipshape cruiser. How often do we see the charts rolled up in a large mess and dropped into a tin or fibre tube. When wanted there is an endless unrolling and also the need for a satisfactory place to lay the chart flat.

We shall describe herewith what we believe to be a neat and handy combination for both the stowage and observation of charts.

The top of the case is primarily the same as the regular chart table having the frame and glass top. Above this frame, however, we have placed a small compartment the width of the case, in which are inserted three charts ready for instant use. Of course, only one or two charts may be placed therein if so desired, but we have found that three can be easily and neatly secured. This group of three charts will generally be sufficient to cover the courses to be run for the day or possibly several days depending upon the size and detail. The charts are attached to the common variety of shade rollers which may be obtained in any department store. When rolled on these rollers they afford a very serviceable and easily stowed member, at the same time being quickly and readily dropped into the holders in the top compartment. The holders are those furnished with the shade rollers. When a chart is desired the glass cover need only be raised and the chart drawn down into frame and cover dropped. This upper compartment should be fitted with a cover hinged at the back and fastened at the front with the customary flat S hook. On the top of the cover may be placed an index either in a waterproof frame or it may be neatly printed, pasted on top and varnished over. The stowage compartments described below and the charts should be numbered corresponding to the index.



G. A. S. keeps his charts rolled up and in little pigeon holes in the cabinet



For the stowage of the charts we place beneath the glass frame top and upper compartment, numerous other compartments somewhat larger than the size of the roller and chart, and extending the width of the case. Here, it may be seen, they can be quickly withdrawn, after a glance at the index, and placed in the upper compartment for instant observation. At one end, which ever is convenient, the side of the case is constructed to drop down, being fitted with hinges and the customary catches on the ends.

In order to keep the charts in good and wearable condition on the ends and also afford ease and strength in handling a linen edge about 4 inches wide should be glued on the top and bottom edges of the charts; the top edge giving a better attachment to the rollers and the lower a stiff edge to grasp when in the frame. At the bottom of the charts there should also be fastened to the linen on the back, two small flat metal rings having adhesive tabs.

G. A. S., New York, N. Y.

Nineteen Twenty-Four Model Marine Engines

American Manufacturers Producing Standardized Marine Motors in a Most Complete Assortment of Power Ranges—An Alphabetical Index of Manufacturers

American Engine Co., Detroit, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
2½	3¼x3¼	1	2	800	140
4	3¾x3½	1	2	800	150
6	4¾x4½	1	2	800	200
8	5¼x5	1	2	600	335
8	3⅞x3¼	2	2	800	280
14	4¾x4½	2	2	750	350
20	5¼x5	2	2	600	495
14	3½x4	4	4	950	650

Anderson Engine Co., Chicago, Ill.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
4½	4½x5	1	4	600	400
8½	4½x5	2	4	600	600
12½	5 x6	2	4	550	1000
25	5 x6	4	4	550	1600
30	4 x5	4	4	1200	700
30	4 x5	4	4	750	800

Auto Engine Works, Inc., St. Paul, Minn.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
34	4¼x5½	4	4	1000	675
65	4¾x5½	4	4	2000	675

The Barker Factory, Norwalk, Conn.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
1¼	3 5/16x3½	1	2	550	110
2½	4¼x4¼	1	2	500	170
4	4 9/16x5	1	2	450	220
6½	5½x6½	1	2	400	350
8	4 9/16x5	2	2	450	380

Belle Isle Boat & Engine Co., Detroit, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
4	3¾x4½	1	4	750	125

Brennan Motor Mfg. Co., Syracuse, N. Y.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
20	4 x5	4	4	1000	625
35	4½x5	4		1000	750
40	4½x5	6	4	700	1250
60	4 x5½	6	4	1200	1000
100	4 1/16x6½	6	4	1500	1200

Buffalo Gasolene Motor Co., Buffalo, N. Y.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
3	3 x4	2	4	700	240
5	3½x5	4	4	600	400
14	3½x5	4	4	1600	690
16	3¾x5	4	4	800	710
25	4¾x5	4	4	800	929
40	5½x7	4	4	900	1730
70	6¾x9	4	4	800	2800
10	5 x6½	2	4	400	1170
13	6 x7½	2	4	350	1400
20	7 x9	2	4	350	2100
20	5 x6½	4	4	400	1960
26	6 x7½	4	4	350	2525
40	7 x9	4	4	350	3655
45	7½x9	4	4	350	3800
60	7 x9	6	4	350	4850
70	7½x9	6	4	350	5100
85	10 x12	4	4	300	8200
125	10 x12	6	4	300	12800

C. N. Cady Co., Canastota, N. Y.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
1½	3 x2½	1	2	1000	45
3	3½x3¾	1	2	700	90
6	3½x3¾	2	2	700	140
4	4½x4	1	2	700	135
8	4½x4	2	2	700	205
16	3¾x4	4	4	1000	300

The Carlyle Johnson Machine Co., Manchester, Conn.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
5	3x3	2	2	1200	120

Caille Perfection Motor Co., Detroit, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
2½	2⅝x2½	1	2	700	40
2½	3½x3½	1	2	800	125
4	3¾x3½	1	2	800	150
6	4¾x4½	1	2	800	200
8	5¼x5	1	2	500	335
8	3⅞x3¼	2	2	850	220
14	4¾x4½	2	2	750	350
20	5¼x5	2	2	600	495
14	3½x4	4	4	1000	650

Consolidated Shipbuilding Corp., Morris Heights, New York

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
K	28	4 x4½	4	4	1200	560
Z	44	4½x5½	4	4	1200	950
N	66	4½x5½	6	4	1200	1200
M	150	5¾x7	6	4	1200	2000
M	200	5¾x7	8	4	1200	2350
∝	300	7 x8½	6	4	1300	4000
M	75	5¾x7	4	4	1000	1850
M	130	5¾x7	6	4	1000	2400
M	175	5¾x7	8	4	1000	2900
L	115	6⅝x8½	6	4	600	5000
H	165	8½x10	6	4	550	5900
H	250	11 x12	6	4	450	11400
MR	180	5¾x7	6	4	1300	2200

Dubrie Marine Motors, Detroit, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
5	3¾x4	1	4	1000	100

The Elco Works, Bayonne, N. J.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
57	5½x6	4	4	1000	1497
78	5½x6	4	4	1500	1497

Erd Motor Co., Saginaw, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
5	2¾x6	1	2	900	180
30	4 x4	4	4	900	750
42	4¾x6	4	4	900	1100

Evinrude Motor Co., Milwaukee, Wis.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
5	2⅝x2½	2	2	1200	67
2	2⅝x2½	1	2	800	45

Fay & Bowen Engine Co., Geneva, N. Y.

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
LN-40	14	2 13/16 x4	4	4	1600	375
LN-41	23	3½ x 4½	4	4	1400	510
LN-42	40	4½ x 5½	4	4	1400	900
LN-43	40	4¾ x 5½	4	4	1000	950
LNS-43	50	4¾ x 5½	4	4	1400	750

The Frisbie Motor Co., Middletown, Conn.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
5	4¾x5	1	4	600	400
8	6 x6	1	4	600	560
10	4¾x5	2	4	600	525
18	6 x6	2	4	600	825
20	4¾x5	3	4	750	725
30	6 x6	3	4	650	1175
30	4¾x5	4	4	800	925
42	6 x6	4	4	600	1400
75	6 x6	6	4	750	2000
23	6 x6	2	4	600	1300
50	6 x6	4	4	600	2150
100	6 x6	4	4	1200	2000
75	6 x6	6	4	600	2500
150	6 x6	6	4	1200	2500

(*Continued on page 94*)

Successful Conver

Twenty-Four Foot Open And Cleverly Rebuilt Sturdy Little

By Winthrop

The sword fish pulpit which was built in on the bow of Pollywog III

The conversion of Pollywog III has changed her into an excellent little cruiser

IN the fall of 1921 I bought four 24 foot motor sailing launches from the navy yard in Norfolk, Va. All of these boats have been remodeled; two from plans which I drew up and two have been redesigned and rebuilt by their present owners. As all the boats have been worked out differently, they furnish a rather interesting proof of the adaptability of these boats to various rigs and uses. The dimensions of these hulls are: Length, 24 feet; beam, 7 feet 1 inch, and depth (garboard to gunwale), 2 feet 11 inches.

Pollywog III is rigged as an auxiliary sloop. She is owned by Frank Couch of Cromwell, Conn., and the alterations were made by Frank Harrison of Essex, Conn., from my design. The sail plan and a short description were published in MoToR BoatinG, March, 1922, under the title Rebuilding Kawa. The water-tight bulkhead was left in its original position and an eight-foot trunk cabin was put on, which left five feet of forward deck. Another sheer clamp was sprung inside the old one to take care of the varing flare and the cabin sides were bolted to it. This gave practically as much inside room as a raised deck and allowed the cabin sides to run back and furnish a high coaming in the cockpit. Of course, this meant that it was almost impossible to go forward on the outside of the cabin but as the cabin sides were only 12 inches high, we decided that we could very readily go over the top, as on a raised deck. The crown is only 6 inches in 7 feet not too much to work on. We put in a center hatch and two hand rails on deck but omitted the usual canvas covering. Personally, I am sick of canvas and much prefer to use heavier duck with marine glue run in the seams.

The inside of the cabin is unsheathed and sleeping accommodations for two are provided on transom lockers. The starboard berth is 8 feet long but the port one is cut off enough to put in the smallest size shipmate stove, which extends

Felisi, under sail, makes a fine little sloop which handles well

The hulls before conversion looked like the illustration below, and not at all like the same boats today

sions of *Navy Craft*

Boats Have Been Altered Into Attractive and Cruising Boats

L. Warner

Star is a little boat converted to a raised deck motor boat, without any sailing gear

slightly under the forward deck. The space under this deck is divided into a locker for food and dishes and a wood bin. Good sitting headroom is found throughout the cabin.

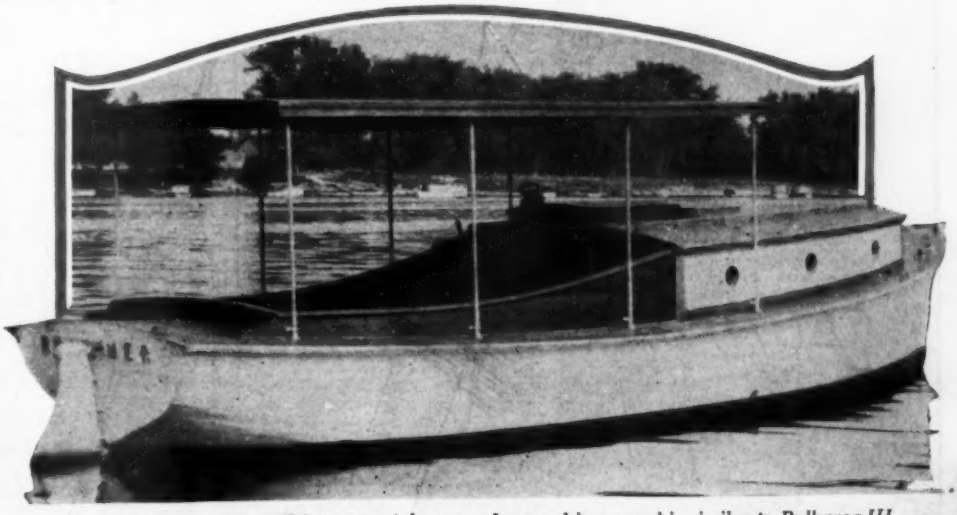
Two twenty-gallon special copper fuel tanks are fitted at the aft end of the cabin on top of the old bulkhead seat. They are sheathed in and so there is no objectionable odor. This is a nice arrangement as the weight is near the c.g. of the hull and hardly disturbs the trim.

A 2-foot after deck was put in, the quarter bitts being left in their original position. Double bitts were also used forward and these proved very handy. The cockpit floor was left at the original level as making it self-bailing was out of the question.

The motor is a two cylinder four cycle 10 h.p. Frisbie. It has given very excellent service and is remarkably economical on gas. It was installed on the original bed; a large box covers all of the motor with the exception of the fly wheel. There are two hinged lids in the top through which the oiler and the clutch and controls may be reached. Although it appears to be a rather clumsy arrangement, it has worked out quite the opposite in practice, as it is used for a table and many other things and keeps the motor out of the way.

The rig, which is really auxiliary to the motor, consists of a triangular mainsail of 178 square feet and a jib of 73 square feet, making a total of 251. We wanted an inboard rig and so to get the desired balance had to use (*Continued on page 122*)

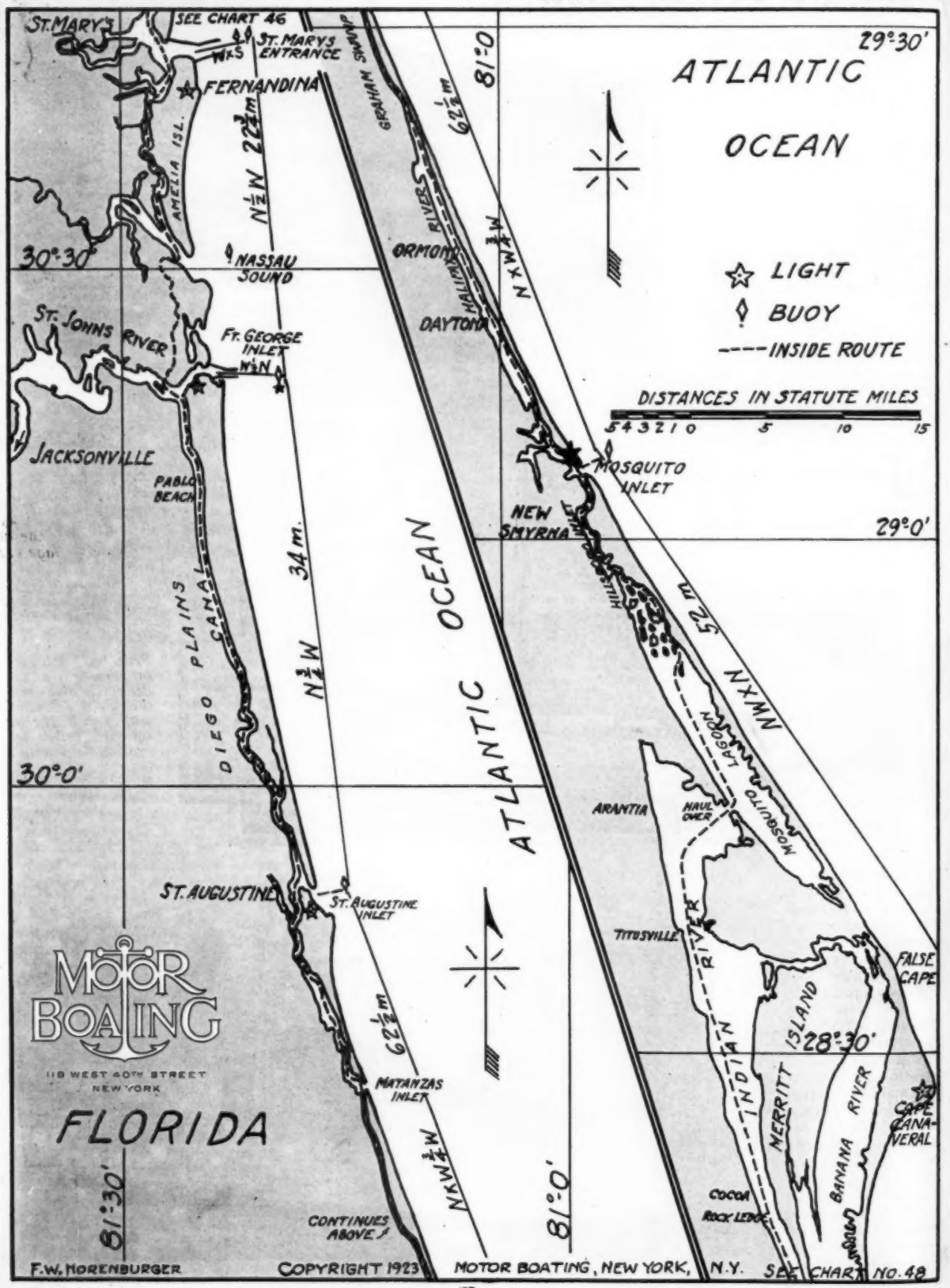
Felisi has taken part in some races under power alone and the Frisbie motor with which she is equipped, drives her along very well



Roamer has been changed into a straight power boat and in general is similar to Pollywog III. Her power plant is a 10 h.p. Palmer

Motor Boatmen's Chart No. 47—Florida Coast, Fernandina to Cape Canaveral.

For Use in Connection with Coast and Geodetic Survey Charts Nos. 158, 159, 160 *and* 161



Cruising in Sheltered Seas

Cruise No. 7 Philadelphia to Miami, Florida, Via the Inside Route
Data As to Mileage, Names of Ports Along Course, Charts Required, etc.

By E. Lester Jones
Director of the United States Coast and Geodetic Survey

SOME millions of breakfasts throughout the length and breadth of the United States were suspended one day last spring while the corresponding millions who were thus fortifying themselves for another day's turmoil read that the houseboat which was carrying the late President Harding to a well-earned vacation had run hard and fast aground in Florida waters.

To many of the readers those glaring headlines doubtless brought visions of a good ship being pounded to pieces by mountainous waves, while passengers and crew struggled valiantly to launch the lifeboats, or clung desperately to the rigging while waiting transportation ashore in the breeches-buoy manned by the ever-efficient Coast Guard.

Others, better informed as to true conditions, realized the absolute dissimilarity of the actual occurrence from this conventional picture of shipwreck. They suspected that the mishap occurred so gently and imperceptibly that the passengers became aware of it only when they noted the failure of the vessel to continue her progress. The most trying scene which they could picture as coming within the bounds of possibility must have brought the proverbial American sense of humor into conflict with the American's veneration of the high office there represented. If the sense of humor prevailed, they probably recalled Mark Twain's classic description of the storm on the Erie Canal, where at the very crisis, when the ship was stranded and all seemed lost, an inspired farmer brought a plank, laid it to the ship, and passengers and crew

"A moment stood. Then wondering turned,
And speechless walked ashore."

These trips of the late President Harding to Florida waters in search of rest and recreation are typical of quests on which Americans in ever-increasing numbers now set out annually. Ponce de Leon was the first adventurer to seek, in Florida, the fountain of eternal youth. He failed in that search, but the germ of truth which lay hidden in that early superstition has survived, and today many of his successors derive, from cruising in the southern waters, that renewed strength and vigor which prolong youth even though they cannot perpetuate it.

Extending along the Atlantic coast from New York City to Key West, there exists a succession of waterways known as the inside passage. At times separated from the ocean only by a frail barrier of sand a few hundred yards wide, elsewhere penetrating far inland; today traversing the broad expanse of Chesapeake Bay, and tomorrow the narrow, saffron-colored waters of the Dismal Swamp canal, the route is one of ever-changing diversity.

One highly significant thing about this route is that it is inside. A light draft vessel can go from New York City to Beaufort, North Carolina, a distance of nearly 600 miles, without getting even a glimpse of the ocean, and from New York to Miami, Florida, a distance of 1,500 miles, with only a comparatively short trip of 150 miles subject to the rough waters outside, and with a good harbor about midway of that distance.

It is the fact that this route is sheltered which makes it of general public interest to dwellers along the Atlantic seaboard. If the project involved the purchase and maintenance of a sea-going yacht few of us would give the matter a second thought. When we learn, however, that that marine flivver, the thirty-foot motor boat, with its two-cylinder engine, its seven-knot speed and its negligible carrying capacity, manned by a crew consisting of husband and wife, can—and does—make the trip, we begin to be interested. There are thousands of the red-blooded, out-door type of American between Long Island Sound and Hampton Roads who own motor boats of the kind described or better. Year by year in ever-increasing numbers they are following the wild geese southward.

This trip probably is no more ambitious in its scope, no more expensive, difficult or dangerous, than that undertaken annually by thousands of motorists who crowd the great national highways. One should have a fair knowledge of seamanship, of the kind and amount which most motor-boatmen possess. He should know his boat, and particularly his motor, so that if anything goes wrong he can locate the trouble and correct it with reasonable promptness. It may not be particularly dangerous, but it is by no means pleasant to drift helplessly for hours in the choppy seas of Chesapeake Bay or the Carolina Sounds, and it is apt to be in those places that one's motor fails him. He should be sufficiently weather wise to determine when it would be unsafe to venture on the few laps of his journey through exposed waters where to be overtaken by bad weather might prove disastrous. He should be able to read his chart, and even to some extent the waters themselves, for at some places along the route the channel shifts as a result of every gale and in these places it is not safe to rely implicitly on the information which the Government has furnished for his guidance.

The trip, therefore, is not the kind one takes when he steps aboard the ocean liner and lets the ship's officers do the work and the worrying. If it were, it would not be worth taking. It is these very elements of personal responsibility, of difficulty, and of risk, present in quantities just sufficient to put one on his mettle, which makes the trip interesting.

(*Continued on page 72*)

Are You Going South This Winter?

WHILE several more months of northern cruising are yet possible and some of the best days of the year are still to come before the ice yacht is made ready, yet with the coming of September, the minds of most motor boatmen begin to drift toward the Sunny South and winter cruising in Florida waters. More boatmen will go South via the inland route this fall than ever before. Thousands and thousands will learn for the first time that motor boating is an all-the-year-round sport.

This article prepared especially for MoToR BoatinG *by E. Lester Jones, Director of the United States Coast and Geodetic Survey at Washington, breathes of the spirit of Southern cruising. He tells us of the wonderful work his great branch of our government is doing for the small boat user. He points out that much valuable cruising data is at the disposal of the motor boatman for the asking.*—Editor.

New Material *for* Stuffing Box Bearings

Remarkable Performance of Rubber Surface Cutless Bearings In Reducing Troublesome Problems of Lubrication, Vibration and Shaft Scoring

BUILDERS and owners of tugs, motor boats, launches and all manner of screw propelled craft have become interested in the unusual performance of the Cutless Bearing.

With a wide adaptation as stern tube and outboard strut bearings they have shown an unusual ability to absorb screw vibration and prevent scoring of both the bearings themselves and the rotating members, as well as give a length of service that is unusual when gauged by the life of the usual types of babbitted, bronze, or lignum vitae bearings.

The secret of the Cutless Bearing is in its inner surface of grooved Olivite Rubber. Certain skeptics decry the use of rubber as a bearing material, but they do not take into consideration the remarkable limits and wide range of service possibilities reached by the modern scientific rubber chemist. The skillful compounder builds a rubber article that is resilient or stiff, soft or hard, just to fit the service demanded. Take the inner tube of an automobile tire—smooth and elastic, yet with tremendous strength to hold under high pressure and continual distortion. Compare this with the tread of the tire ieself, compounded in an entirely different manner, not so resilient but harder and stiffer to combat the shock and abrasive action of road contact.

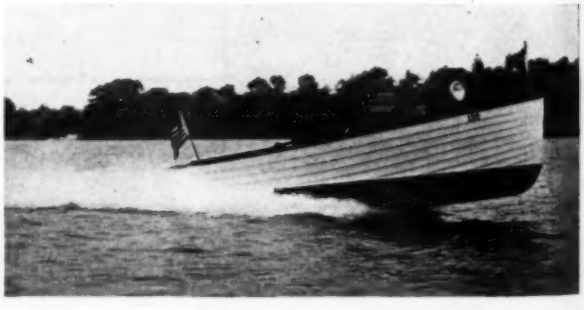
The Olivite Rubber used for Cutless Bearings shows by scientific test a lower coefficient of friction on its wetted surface (for water is used as a lubricant on this bearing) than on an oiled babbitted surface. Therefore, an Olivite Rubber bearing lubricated by water offers less frictional resistance than the metal bearing lubricated by grease or oil—hence more power to the screw.

Another claim for Cutless Bearings, and it has been borne out in actual service, is that it prevents (*Continued on page* 60)

Fast *Dory Type* Sea Skiffs

Tendency for Speed in Small Boats Results in the Installation of Large Power Plants in Red Bank Dories with Surprising Results

One of the standardized 26 by 6 foot high speed skiff type runabouts, just completed by the Red Bank Yacht Works for Lewis de B. Moore, which he is using at Oyster Bay, Long Island. This boat is a wonderful sea boat and of the standard Red Bank dory type developed by this company. The engine is very powerful, being of 300 h.p. and the speed of the boat is 39 miles. This is attained when turning a three blade Hyde propeller of 20 inches and 30 inches pitch, at over 1,600 revolutions



This little boat is of a similar type to the one alongside, except that it has been finished much more elaborately and fitted with a wind shield, awning, and other luxuries. It is owned by J. Lester Eisner of Red Bank, N. J., and is of the same dimensions as the other. The engine is not quite so powerful, being a six cylinder Wisconsin White Cap, which turns an 18-inch diameter, 16-inch pitch propeller at 1,300 revolutions, and developing a speed about 16 m.p.h.

Yard *and* Shop

Notes of Interest to Both Owner and Manufacturer

Namid Wins Scripps Trophy

Jack Farr, at the head of a reliable crew, piloted his cruiser Namid to victory in the annual Reliability Race for the Scripps trophy, over a course from Rocky Point to Put-In-Bay and return. Namid defeated a field of fifteen boats in this race, and the entire credit for winning is given by Mr. Farr to his crew and the reliable Kermath power plant. Careful attention was given to steering an absolutely straight course and the helmsmen were relieved at short intervals to insure the man being constantly on the alert. During the entire race it was not necessary to touch the motor in any way, other than to supply it with fuel and oil. The trip across the lake was made very comfortably, as the weather was fine. The trip was started on Friday the thirteenth, with the noted pirate crew of the Detroit Yacht Club. Add to this one of the finest little motors built today, and the combination is one which is hard to beat. The trophy donated by William E. Scripps of Detroit is generally regarded as the blue ribbon event for cruising boats on the Great Lakes. The highest quality of seamanship and reliability is required because the race is so arranged that the most difficult portions of the course are covered during the night.

Johnson Motors Winning

Numerous reports of the success of boats equipped with Johnson outboard motors in races held in all sections of the country, all indicate that these little motors are wonderfully adapted to fast traveling. Down in Lake Village near Memphis, Tenn., a race over a four mile course was won by Neal Goodman, operating motor No. 595. Practically all makes of outboard motors were represented, while the Johnson succeeded in winning both first and second places. At Birmingham, Ala., two races were entered by Johnson outboard motors, and each was won. The first of these was over an eight mile course, and the next was a free-for-all in which the Johnson beat the nearest cruiser by 200 feet in a two mile race. At Madison, Wis., there was a free-for-all outboard motor race, in which Johnson motors finished first and second, while another well known outboard motor finished third, fourth, and fifth. There was some question about the first race so the judges decided to run it again. The Johnsons again came in first and second. There was again a discussion with the judges and it was decided to run the race the third time. The third time the Johnsons came in first and second and were awarded the money.

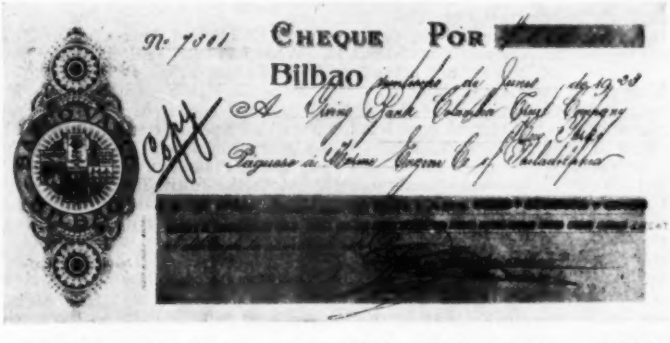
An attractive window display arranged in the windows of the State Bank in Chicago by the G. B. Carpenter Company. This display attracted much favorable comment and introduced the general public to the possibilities of the sport

New Bosch Sales Engineer

The Robert Bosch Magneto Company of New York have just added J. K. Dalton to their staff in the capacity of Sales Engineer. Mr. Dalton is widely known in the automotive industries and has had a varied experience in this field. For several years he was the Sales Engineer of the Rayfield Carburetor Company. In their shops, Richard Webber has been appointed Shop Superintendent. He has had extensive experience in the winding, condenser, assembly, and testing departments.

Ferdinand Appoints New York Representative

Due to the increasing demand for the products of the L. W. Ferdinand Company and also in order to have someone in and about New York City thoroughly acquainted with the various uses of marine glues, etc., August Schlueter, of Rockville Center, Long Island, has been appointed Sales Representative for this territory. His knowledge of marine requirements and more particularly the uses of marine glues and similar products, will be available to any who care to get in touch with him on the subject.



Reproduction of a check sent to the Marine Engine Company of Philadelphia in payment for their first export order. They mentioned that this order undoubtedly was received as a result of advertising in MoToR BoatinG

Portable Radio Set for Boats

An ideal little radio set, designed to be readily carried about on summer vacation trips on the boat or otherwise, is that made by the Colin B. Kennedy Corporation of St. Louis. This little set is the result of exhaustive tests by the engineering staff of the corporation, and has all the beauty and refinements of larger Kennedy units. The set is simple to operate and with a high degree of selectivity. The usual summer interference which is found in a large number of small sets has been eliminated, which makes this ideal for summer service. It uses standard tubes, including the dry cell type.

(*Continued on page* 80)

Nueva Wins Cruiser Championship

(*Continued from page 26*)

Venture, owned by Harry Porter, also entered and made the long trip to Philadelphia for the purpose of having three New York boats among the first three craft to finish on corrected time, but upon being measured at Essington it was found that a slight difference in draft had been made in a former measurement, which when corrected, raised Venture's rating considerable and therefore put her out of the running.

Along with Nueva, Spendthrift II, Halcyon, and Venture, to make the New York fleet look more imposing went Victory II and Marilene II and although these two boats were not entered for the race, their owners assisted in conducting the race, and their good sportsmanship in supporting the race was much commented upon. As almost every one knows Victory II is owned by Commodore H. A. Jackson of the New York Athletic Club, and Marilene belongs to Commodore H. M. Williams of the same organization. Victory was the cruiser champion of 1920 but since then has retired from racing without ever being beaten, but it is quite probable that several of this year's fleet would have beaten the old champion quite decisively.

The Philadelphia entries consisted of a very representative and formidable fleet of thirteen boats, which without question was the best collection of small cruisers ever entered in a race anywhere. Of course, Diana was the favorite and was expected to win. She was chosen by the Philadelphia Yacht Club as the defending boat and as she had never been beaten in her career, there were many who believed that the trophy would rest for another year in Philadelphia, and Diana was not all the Philadelphians had to offer either. She was supported by such well known boats as Pickaninny of the Camden Motor Boat Club, Intrepid of the Philadelphia Yacht Club, Lady Jane of the Riverside Yacht Club, and Mascot of the Columbia Yacht Club.

The course chosen for the race was from a starting line off the Philadelphia Yacht Club down the Delaware River, to and around Ship John Light, and thence returning to the finish line at the Yacht Club. The total distance is eighty-four nautical miles which is equivalent to ninety-six statute miles. The Deed of Gift governing the trophy, limits the boats which may compete for the trophy, to those having a water line length of between thirty and forty-five feet. While it might be considered on first thought that such a course was not an ideal one for a Cruiser Championship Race, due to tidal and current conditions which always either favor the slow boat or the fast boat, depending upon whether the currents are favorable or adverse, yet in this instance, a time of start was chosen which resulted in the tidal conditions being as near the same for all boats as it is physically possible to make them.

The time chosen for the start was 8 30 A.M. standard time, which was about 2¾ hours after local high water at Essington, or about an hour after the current began to flow ebb. This condition allowed the fast or high rating boats to carry the tide down the Delaware with them, to a point not far north of Ship John Light where they met slack water, and the first of the flood current. These boats on the course up the river carried a favorable current with them all the way, but not of very great strength, due to the fact that the current in the Delaware changes direction about three hours later at Essington, than it does at Ship John Light. In other words the high rating boat which had a speed of about twelve miles an hour and reached the turning mark at slack water or beginning of the flood, would remain in this same tidal condition during all the run up the river, and thus receive less than one-half mile an hour assistance from the current from Ship John Light to the finish line, a distance of approximately forty-eight miles. This distance in slack water would require something over three hours for these boats to make.

On the other hand the low rating and slow boats starting out from Essington would carry a favorable current down the Delaware for a distance of twenty to thirty miles, depending upon their speed. At this point they would meet the first of the flood current which they would be required to buck for the remaining distance to the turning point at Ship John Light. When these boats reached this point they would find a very strong flood current up the river amounting to nearly two knots. These boats thus carried this strong favorable current all the way up the river from Ship John to the finish line. The assistance of this strong current which the small boats received and which the fast boats did not get the benefit of, practically compensated for the amount of time that the slow boat lost, being required to meet an adverse current for the last ten or fifteen miles on the down run. Thus, it will be seen that tidal conditions amounted to practically the same for all the boats in the race and did not give an advantage to either the high rating boats or the low raters, as is generally the custom when a race is arranged on a tidal river, similar to the Delaware.

Boats were handicapped according to the American Power-Boat Association Racing rules. In these rules the horsepower of the engines is a very important factor, and one which in many races has been rather hard to determine with any considerable degree of accuracy. This has been due to the fact that revolutions of the power plants must be known in determining the horsepower. In some races the owner's statement has been taken as to how fast his engine is capable of running. In other races revolutions were taken by the owner, at frequent intervals during the race and reported to the committee at the finish. However, both of these methods have their limitations for obvious reasons which led to considerable dissatisfaction over results in the past.

In the race this year it was decided that a qualified uninterested observer be placed on board each of the competing craft, and that they be required to take revolutions of the motors at twenty minute intervals during the entire race. The observers this year were furnished by the Naval Reserve at Philadelphia, under Lieutenant Walter M. Gorham, Jr. The plan worked to perfection, as the men furnished by Lieutenant Gorham had had previous engine room experience, and were thus qualified to take r.p.m. readings. The Committee was therefore assured of accurate results. Errors in the calculations of horsepowers and ratings were thus reduced to a minimum.

The Race Committee in charge of the actual handling of the race consisted of Reuben B. Clark of Philadelphia, assisted by Commodore Philip H. Johnson of the Philadelphia Yacht Club, Commodore H. M. Williams of the New York Athletic Club, Commodore Frederick R. Still, President of the American Power-Boat Association, and Wilbur H. Young, President of the R. C. R. C. Arrangements could not have been better, and although it was necessary to calculate the boats' ratings after the finish of the race and after the observers had turned in the performances of the engines during the race, yet it was possible to announce the results of the race very shortly after the last boat had finished.

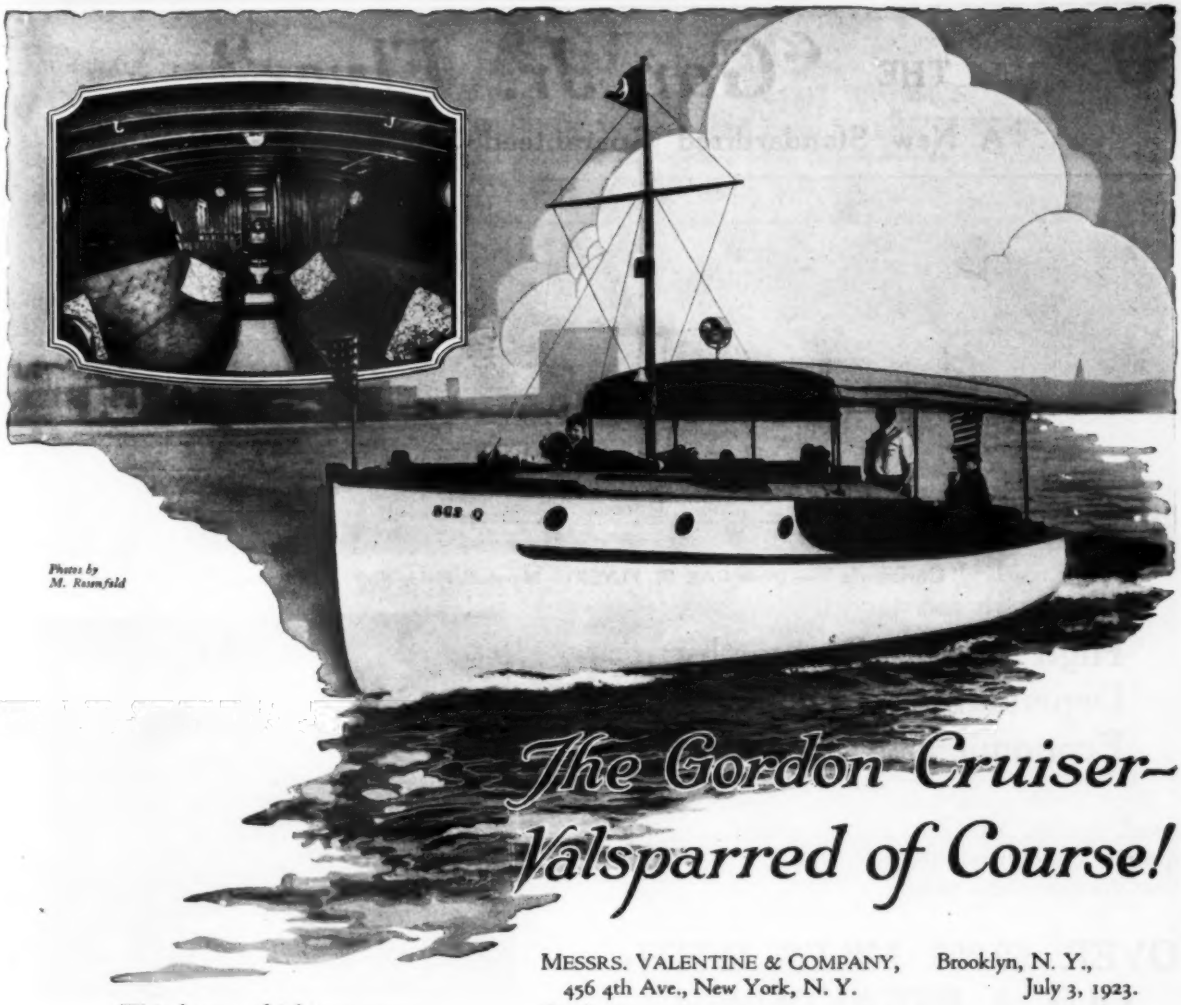
All the measurements of the competing boats were checked before the starting of the race by F. W. Horenburger of MoToR BoatinG, and J. C. Vanderslice of Camden. This procedure to have the boats all measured by the same measurers just previous to the start of the race, made it certain that the boats received a correct rating according to the trim they were at the time of the start.

At the start of the race Diana took the lead and was never headed for the entire distance, although Nueva went across the starting line only a few lengths astern of Diana. The two boats remained in almost the same relative position for nearly the whole race, Diana leading at the finish by a trifle more than three minutes. However, as she had to allow Nueva fifty minutes handicap, it was apparent from the start that, barring accidents, the Delaware river boat had much chance to retain the trophy for another year.

Nueva was handled by her owner T. W. Brigham, assisted by her designer James W. Hussey. Not much real navigation was required, nor local knowledge necessary, as Nueva followed very closely the course sailed by Diana. Nueva's speed was a surprise to all, as she was showing nearly a knot better performance in this race than she had shown in any of the other races in which she had participated earlier in the year. This improvement was due, without doubt, to a better tuning up of the power plant and particularly a smoother underbody, than it was possible to obtain earlier in the season, when Nueva was just out of the boat shop.

Following not far astern of Diana and Nueva came Pickaninny and Spendthrift II. What has been said about the crew of Nueva, not being required to show much skill in handling their craft, is equally true as applied to Spendthrift II. Immediately after the starting line had been crossed, Pickaninny went several boat lengths ahead of Spendthrift II, holding the same distance ahead for the entire run down the river, to Ship John Light. At the half way point, Pickaninny led Spendthrift II by about four minutes, but at the finish line she was less than two minutes in the lead. This gradual overhauling of Pickaninny by Spendthrift II might have been due to the slowing down of Pickaninny's power plant, but it was more likely due to the fact that the crew of Spendthrift II became a trifle bolder on the run up the river, refusing to follow in Pickaninny wake, but taking courses of their own based upon their knowledge of tidal and current conditions in their parts of the world, rather than any specific knowledge of Delaware river conditions. To the crew of Spendthrift II it was very much of a surprise that they gained on Pickaninny, as the latter boat was in charge of E. C. Headley, one of the most experienced

(*Continued on page 112*)



Photos by M. Rosenfeld

The Gordon Cruiser— Valsparred of Course!

This letter which we reproduce writes another creditable story for Valspar. It is one of many letters of commendation which come to us constantly from large and important boat-building companies—all bearing witness to, Valspar's continued superiority as an all-round marine varnish.

MESSRS. VALENTINE & COMPANY, Brooklyn, N. Y.,
456 4th Ave., New York, N. Y. July 3, 1923.

Gentlemen:—

It is our pleasure to advise you that in the last several Gordon Specialized Cruisers that we have delivered we have used your Clear Valspar Varnish with exceedingly satisfactory results.

Interior of our cabins are built entirely of mahogany, and previously, or until we used your varnish, we could not get a finish on the mahogany that gave us the results that we desired.

Enclosed photographs speak for themselves, the camera showing the wonderful soft, clear effect of the mahogany when treated and finished with your Valspar.

We also find that your varnish stands up remarkably well on our exterior work in our boats around the salt water.

Please accept our compliments and best wishes for your continued success.

Yours very truly,
THE GORDON BOAT BUILDING CO.
By Hy. H. Gordon, Jr.

This coupon is worth 20 cents to $1.20

VALENTINE'S
VALSPAR
The Varnish That Won't Turn White

Valspar . . .	☐
Valspar Bronze Bottom Paint .	☐
Valspar Aluminum Paint .	☐
Valspar Yacht White . . .	☐
Valspar Enamel State Color . .	☐
Valspar Stain . State Color . . .	☐

VALENTINE & COMPANY
456 Fourth Ave., New York

I enclose dealer's name and stamps, amounting to 20c for each 40c sample can checked at left. (Only one sample of each product supplied at this special price. Write plainly.)

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Dealer's Address.....
Your Name.....
Address..... M.B.9-23

THE "Gar Jr. Flyer"

A New Standardized Guaranteed 30-Mile Commuter

"Corisande"—(New GAR JR. FLYER)—Marshall Field, N. Y. Y. C., Owner

High Speed—Seaworthy Dependable—Low Cost Economical Operation

A 50-ft. twin screw motor yacht with sustained high speed, free of vibration, and remarkable seagoing qualities (as demonstrated by GAR JR. II in various long distance ocean races).

OVER 60,000 MILES WITHOUT A BREAKDOWN!

That is the racing and cruising record of the GAR JR. II, holder of cruiser championships, and from which the GAR JR. FLYERS have been developed.

The roomy bridge deck and forward cockpit seat 12 persons.

Power plant consists of two twin-six "Liberty" motors developing 450 H.P. each, perfect in balance and control, absolutely reliable, and practically automatic in operation.

GAR JR. II completing record-breaking run from Miami to New York (outside route)
1260 miles at sea in 47 hours 23 minutes running time (21 min. less than schedule train time of famous "Havana Special")

For price, plans and full particulars, apply to

COX & STEVENS (Exclusive Sales Agents) **25 Broadway, New York**
Telephone: WHITEHALL 2700

Advertising Index will be found on page 126

NAVAL ARCHITECTS
ENGINEERS
YACHT BROKERS
MARINE INSURANCE

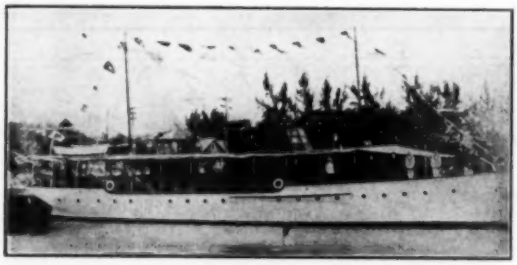
HENRY J. GIELOW, Inc.

25 West 43rd STREET, NEW YORK

Tel.: Murray Hill 9134
Cable Address:
Crogie, New York
A.B.C. Code

Plans and specifications for new yachts of any size or type should be prepared now to assure delivery for next year. Have plans of new yachts, all types, on file now.

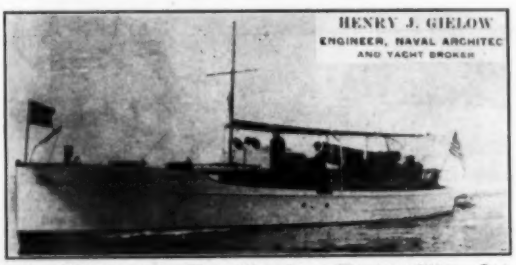
We have a most complete and up-to-date list of steam and motor yachts of all sizes, sail, auxiliary, and houseboats, on file in our office, kept constantly up-to-date by a thorough and comprehensive canvass of the entire yachting field from time to time. We are in a position to submit full information on any type of boat, upon request.



No. 7866—For Sale—Best purchase for quality at reasonable price. 93′ x 18′ x 9′ 10″. Desirable for Florida and Cuba. Twin screw, handsome, able cruiser in commission. Owner abroad. Built 1918 by prominent firm. Speedway motors. Speed 12-14 miles. Teak deck trim, three double, one single staterooms, bath, deck saloon. Large crew quarters. Condition 100 per cent. Complete. Henry J. Gielow, Inc., 25 West 43d St., New York City.

No. 7896—For Sale—Most attractive sedan day cruiser. Gielow designed. Lawley built, mahogany planked, Speedway engines, 18 mile speed, used but very little, price attractive. Further particulars furnished upon application to H. J. Gielow, Inc., 25 West 43rd St., New York City. Telephone: Murray Hill 9134.

No. 8196—For Sale—Attractive 1922 built cruising houseboat. Just the type for Florida and Northern cruising. 49′ 11″ x 13′ 7′ x 3′. Electric starting. Standard motor new 1923. 50 H.P. Speed 10 miles. One double, one single staterooms and saloon. Sleep six, besides crew of two men. Delco electric plant, fully equipped, all best quality. Economical. Deckhouse 12′ x 8′. Also lower saloon. Roomiest boat of size available. Price reasonable. Henry J. Gielow, Inc., 25 West 43d St., New York City.

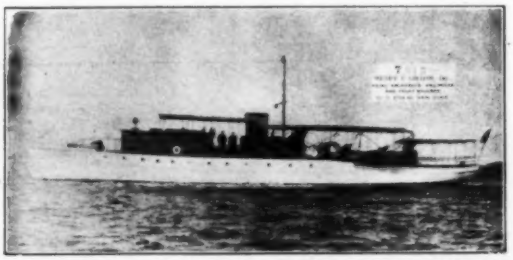


No. 7251—For Sale—Elco, 50′ cruiser. Finest condition. Just put in commission. Complete, able seaboat. 150 H.P. Sterling. Speed 11-13 miles. Had but one owner and used four seasons as day cruiser. Condition like new. Handsome model. Electric plant. Sleeps four to six. Henry J. Gielow, Inc., 25 West 43d St., New York City.

No. 7939—FOR SALE—CHARTER—In commission, New York. Desirable modern twin screw motor yacht. 50 H.P. Speedway. Speed 12 miles. Able and steady. 70′ x 12′ x 3′ 3″. Electric lights. Edison batteries. Fine condition. Two double, single and main saloon. Sleeps 6-8. Price low. Mahogany finish. Large deck room. Headroom 6′ 6″. Henry J. Gielow, Inc., 25 West 43rd St., New York City.

No. 8014—For Sale—Located Florida. Might charter season. 52′ x 14′ x 3′. Built 1919 of best materials and finish. 50 H.P. Standard motor. Speed 9-10 miles. Double and single stateroom, deck saloon and lower saloon. Sleeps 5-6. Completely found, all fine condition. Anxious to sell. Price reasonable. Hot water heated. Henry J. Gielow, Inc., 25 West 43d St., New York City.

No. 7056—For Sale—Charter—Attractive cruiser with houseboat accommodations, having three double staterooms, large deck house and lower saloon. Accommodates 6-9. Two 20th Century motors. Speed 10-11 miles. Bath, two toilets in owner's quarters. Dimensions are 88′ x 16′ 6″ x 3′ 6″. Hot water heat, electric plant. Completely equipped for cruising. Economical to run with crew of five men. Reasonable price. Henry J. Gielow, Inc., 25 West 43d St., New York City.



No. 7013—For Sale—Opportunity to buy only Diesel yacht available at reasonable price. 110′ x 18′ x 6′ 6″. Copper sheathed, heavy construction, an able seagoing yacht in fine condition. Three large airy staterooms, bath, deck saloon. Two 6 cylinder Diesel motors at speed 10 knots, fuel consumption 10 gallons per hour. Cost sixty cents per hour. 2500 mile radius. Electric fans, screens, ice machine, three toilets. Has twice cruised West Indies, last one made 1922. Entirely overhauled. Henry J. Gielow, Inc., 25 West 43d St., New York City.

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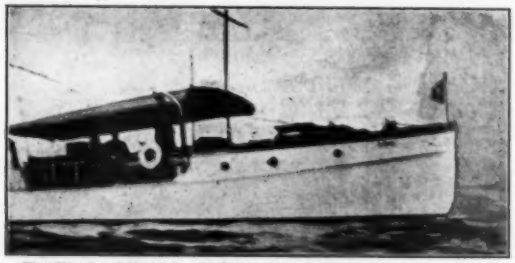
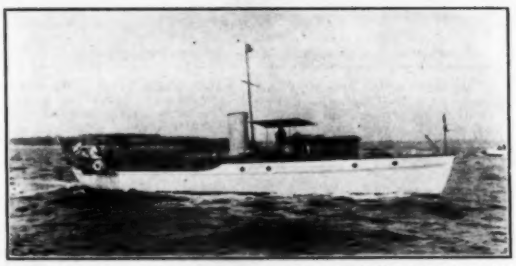
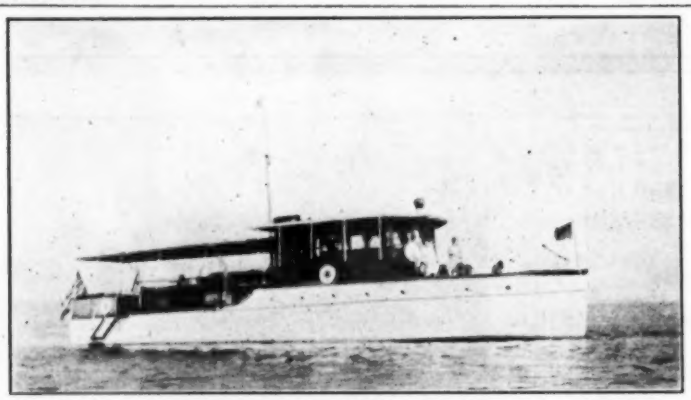


The Firefly, 36' x 9' x 3' 8", bridge deck cruiser, one man boat. Boat and engine built by Woods & Chute of Greenport. Heavy construction. Engine 4 cylinder, 46 H.P. heavy duty Bosch equipped. Two cabins, sleeping four. Electrically lighted and started. Finished in enamel and mahogany. In absolutely perfect condition. Now in commission. A. J. Patterson, 58 W. Forty-seventh St. Bryant 1681.



No. 456—For Sale—Power yacht, 62' x 12' 2" x 3' 9" draft. Mahogany finish throughout. Two double staterooms. Murray & Tregurtha engine. All fittings and furnishings new last year. An exceptionally beautiful yacht and must be seen to be appreciated. Very low price for quick sale. Apply RIGG'S YACHT AGENCY, 350 Madison Ave. (at Forty-fifth St.), New York City.



No. 847—For Sale or Charter—Gentleman's high grade fast 60' seagoing cruiser, affording maximum comfort and conveniences. Sleeps seven in owner's accommodations, including shower bath and two toilets. Unusual fine galley. Elegantly appointed throughout with exceptionally complete cruising inventory practically all new 1923—launch and dinghy. Speed 13 miles. One of the finest yachts of her size and type available. In commission and ready for immediate delivery. Ideal for Florida waters on account shoal draught. Wonderful deck space fore and aft and superior light, air and ventilation. For full particulars address Simon Fisch, Yacht Broker, 185 Madison Avenue, New York. Telephone: Ashland 6138.

BARGAIN

30' long, 8' beam, half cabin Sea Bright cruiser. Launched new August 20, 1922. 60 H.P., J. B. B. (J. Van Bierck) motor. Starter, toilet, 30-gallon fresh water tank, two copper gas tanks, fully found, suited for Florida fishing. Used only three short trips since launched. Perfect in every way. Wonderful sea boat. Speed 13-15 miles. Cost $5200, will sell for $2500. Address 200-5, care MOTOR BOATING.

FOR SALE—One 4 cyl. 6½" x 8½" 50 H.P. heavy duty 20th Century marine engine. 2 magnetos and battery ignition. Electric starter and generator. Practically new. Bargain. Witanen, 1 West 127th Street, New York City.

Runabout, 18', 4 cylinder, 4 cycle. Speed 15. Reverse gear, windshield, top, side curtains, auto control, electric lights, horn, starter, full equipment. In Jamaica Bay. Freyman, 41 Melrose Street, Brooklyn.

26' racing sloop "Swan," lead keel, self-bailing cockpit, small cabin, first-class condition, fully equipped skiff, reasonable. Steward, Gravesend Bay Yacht Club, Brooklyn.

FOR SALE, exchange for real estate, or what have you to offer for 33' x 8½' mahogany cruiser? A beauty, similar to the much advertised Elco cruisette, but has better lines and design. Equipped with new 4 cylinder, 4 cycle, 32-40 H.P. Red Wing motor; enclosed flywheel, self-starter, electric lights, toilet, galley, etc. Walter L. Rose, New Smyrna, Fla.

6—6 cyl. A 5 A Hall Scott motors, 150 H.P.
14—4 cyl. A 7 A Hall Scott motors, 100 H.P.
All of these engines are converted for marine use, are equipped with exhaust manifold, flywheel, reverse gear, gear pumps, Atwater and magneto ignition, all are complete and ready for installation in boats.

6 cyl. motors complete	$550.00 each
4 cyl. motors complete	400.00 each
2—6 cyl., 160 H.P. Mercedes converted as above	600.00 each
2—6 cyl. Isotta-Frachini model, 4 V. B. 165 H.P. each, converted as above, but with electric starters and generators	750.00 each
1—Red Wing model "B," new and unused electric starter	700.00
1—3 cyl., 21 H.P. Lathrop, new and unused	650.00
1—4 cyl. Grey, 22 H.P., beautiful condition	525.00

RED BANK YACHT WORKS
Red Bank New Jersey

Advertising Index will be found on page 126

THE MOTOR BOATING MARKET PLACE

The rate for "For Sale" and "Want" advertisements is 8 cents per word, minimum $2.00. If an illustration is used, the charge is as follows, which includes the making of the cut:

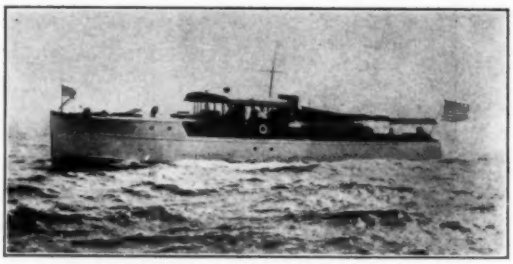
Cut one inch deep, two inches wide..... $ 3
Cut 1¼ inches deep, three inches wide..... $12
Cut 2¼ inches deep, four inches wide..... $20
Cut 3¼ inches deep, six inches wide..... $28

Opportunities for the Motor Boatman

Before you buy or before you sell examine the exceptional buying and selling opportunities under this heading. They comprise the best offers of the month. Please mention MOTOR BOATING.

Classified advertisements set entirely in small light face type. No extra charge for capitals. Bold face type used at display rate, $12 per inch, single column

FOR SALE—Friendship sloop tramp. Built by Charles Morse 1910. Oak planking. 2 cylinder Lathrop motor, 14 H.P. 34′ x 12′ x 6′. A real boat and no basket. E. A. De Wolf, 10 South Sixth St., New Bedford, Mass.



For Sale—A very attractive high speed cruising yacht built by Great Lakes Boat Building Corporation, two six cylinder high speed motors. Speed 13-15 miles per hour. Accommodations: Owner's stateroom and guest stateroom extending full width of the vessel, large dining saloon with transoms, making up into four berths, two toilets and one bath in owner's quarters. Finished in mahogany throughout. Protected bridge and after cockpit. Galley and crew's quarters forward. One of the most attractive boats of its type. Built in 1917. Can be secured at an attractive figure. John H. Wells, Naval Architect and Broker, 347 Madison Ave., New York City.

BINOCULAR—$5.00. Here is the ideal glass for the boatman. Biascope, 6 power binocular, only $5.00; weight only 8 oz.; pocket size; 25 mm. objective; beautiful optical quality. Price complete with case, $5.00, plus 25c tax and postage. Money back guarantee. Wollensak Optical Company, 5-7 Clinton Ave., North Rochester, N. Y.

FOR SALE—Perfectly good Andrade Windlass double heads, handling rope and ½ inch chain on each end and 300 feet ½ inch chain. Have lengthened boat and replacing with ⅝ inch only reason for selling. Will accept reasonable price. Address F. L. Seely, Asheville, N. C.

For Sale—New and rebuilt marine engines. Write for list of bargains. Anderson Engine Co., 4032 No. Rockwell St., Chicago, Ill.

Cruiser houseboat, 38′ x 12′ x 3′. Jacob built 1917. Speedway motor. Cruised to Florida. Complete equipment. Competent crew. Sale. Charter. Shipshape, care MOTOR BOATING.

FOR SALE—22′ motor boat, 40 H.P. Motor in fine condition. Write me, Floyd White, Patoka, Ind.

WANTED—To buy Speedway, Model L, 6 cylinder or similar engine 125 H.P., 500 to 600 R.P.M. Not interested in Sterling. Address Engine, care MOTOR BOATING.

WANTED: 32-ft. speed boat hull, displacement for V-bottom, must be in good condition. Price about $400. C. Stolen, 121 Saratoga Ave., Yonkers, N. Y.

TRIMOUNT WHISTLE BLOWER OUTFITS
Friction contact with engine flywheel.
3 sizes.

TRIMOUNT ROTARY HAND BILGE PUMPS
All bronze composition. Suction lift 6 to 20 feet.
3 sizes.

A tremendous success—a high-speed, *bronze* Power Pump for $15.00
TRIMOUNT ROTARY POWER CO.
294 Whiting Ave., East Dedham, Mass.

WANTED—To buy former Government subchaser. Must be in best of condition. Write, giving full particulars, etc., P. O. Box 285, Galveston, Texas.

I want to buy a boat suitable for passenger carrying from 75′ to 100′ in length, 15′ to 18′ in width. Must be in a No. 1 condition. Without engines. Chas. Sa-Van, Mt. Clemens, Mich.

Party boat for sale, 30′ x 10′. Equipment price $400. For particulars apply to Emory Sabol, 185 Howe Ave., Passaic, N. J.

FOR SALE—One 32-37 Standard heavy duty marine engine. One 50-54 Standard heavy duty engine. One Winton 5 KW. generating set. Percy M. Child, 1110 Fourteenth St., N. W., Washington, D. C.

FOR SALE—All mahogany express cruiser, 67′ x 13′. Built 1922. Speed about 30 miles. Two double and one single staterooms, bathroom and dining saloon. Also one 60′ x 9′ 6″ hull mahogany. A1 condition. Speed about 33 miles. Price $22,000.00. Harry L. Becker, 185 Pine St., Providence, R. I.

Sterling motor, 4 cylinder, 5½ bore, 8″ stroke, medium duty, with reverse gear—electric starter, highest grade German Bosch double spark magneto—8 spark plugs; also separate battery ignition, 4 spark plugs; Stromberg carburetor, electric generator—2 oiling systems—gravity and force feed with sight and extra oil tank—4 new type light pistons, extra valves, springs, piston rings, bearings, etc. First check for $1000.00 takes it—have bought larger motor. Address John F. Devlin, 22 Marshall St., Providence, R. I.

One cyl., two cycle, 1-8 H.P.....$25 to $65
Two cyl., two cycle, 6-20 H.P.....$45 to $135
Three cyl. Ferro, 25 H.P.....$135
Four cyl., two cycle, Lockwood-Ash speed motor.....$165
Six cyl., 4½ x 5 Roberts speed motor....$235

Four Cycle

7 H.P. Frisbie, 1 cyl., 6 x 6.....$135
22 H.P. Gray, 4 cyl. gear unit plant.... 275
30 H.P. Erd, 4 cyl., 4 x 6..... 175
30 H.P. Erd..... 225
45 H.P. Holmes, 6 cyl. and gear unit plant..... 385
40 H.P. Stearns, 4 cyl. (new)..... 265
And others.
State your power needs.
BADGER MOTOR CO. Milwaukee, Wis.

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Wanted
MOTOR BOAT CRUISER
45 to 60 feet overall. Twin screw preferred. Photo and full particulars.
Post Office Box 83, Rydal, Penna.

FOR SALE—Pierce Budd three cylinder MARGARET III type motor. Run very little and in excellent condition. Complete with reverse gear, propeller and revolution speedometer. Price $200.00. V. L. Walker, 1635 North Kenmore Ave., Los Angeles, Cal. South California Distributor Palmer and Peerless Motors.

WANTED—Yawl, auxiliary. 30′ to 35′ overall. Must be in excellent condition throughout and stand rigid inspection. Galley required. Good engine with self starter. Reasonably priced. Address Box 80, care MOTOR BOATING.

Free Illustrated Literatures, New Rebuilt Engines, Outboards, Clutches, Gears, Joints, Pumps, Hyde Propellers, Stoves, Cruisers, Runabouts, Canoes, Camping Outfits. Canadian Boat & Engine Exchange, Toronto.

Speed boat, solid mahogany, 25′, 5′ beam, 6 cylinder Pierce. First-class running condition. $650. Miller, Meadowmere, L. I., N. Y. Laurelton 5551.

UNUSUAL OPPORTUNITY—Several Winton Diesel engines, 225 B.H.P. unused, single or twin-screw sets, many spares, immediate delivery. Half factory price.
WHITTELSEY & WHITTELSEY
17 Battery Place New York, N. Y.

Sterling, 4 cylinder, 25-40 H.P. unit power plant equipped with two Spark Bosch magneto. First check for $225.00 takes motor. Brennan Motor Mfg. Co., Syracuse, N. Y.

FOR SALE—Trunk cabin motor boat, 21′ x 6′ 8″ x 27′. Good lines. Frisbie motor. In commission. $600. A. H. Crosby, 249 Oxford St., Hartford, Conn.

New Bearing Material

(*Continued from page 44*)

scoring of the bearing or rotating member when water containing grit, sand or other cutting materials is used. The explanation is this—by the action of the shaft a constant stream of water is circulated through the spiral groove in the rubber surface of the bearing. When a piece of grit or sand gets into the bearing, it cannot find lodgement in the highly resilient rubber, but, impinging against the bearing wall, is thrust into the groove when the flow of water carries it away.

Again, the resiliency of the tough rubber construction of the Cutless Bearing nullifies in large part vibration of the screw. This was interestingly demonstrated on one of the earliest installations of this new type, on a tug and towboat built for the State Harbor Commission of California and designed by David W. Dickie, one of the foremost marine architects on the Pacific Coast. This bearing was installed in the stern tube, replacing the usual babbitted bearing. The bearing supported a shaft 5¼ inches in diameter and was 23¼ inches long, being the exact size and length as the babbitted bearing it replaced. The propeller on the shaft on the outer end of this bearing was 54½ inches in diameter, 39 inch pitch, three blades 33 foot area of polished manganese bronze and the r.p.m. of the shaft is 325.

This bearing is lubricated with the cooling water from the engine.

On the test trip of this boat it was found that the vibration had been materially reduced, due to the installation of this bearing, and this same condition has been maintained over a period of a year's operations.

This craft operates in San Francisco Bay, subjected to a large amount of silt and sand, and the ordinary bearing used in boats of this character has a life of approximately six months. This craft has been in operation for over a year and on going on dry dock no signs of wear could be detected, either on the bearing or the shaft. The operating engineer is on record with the statement that "I had forgotten there was a bearing in the boat."

A misalignment of shaft need cause a motor boat manufacturer no concern, provided Cutless Bearings are used, as the resiliency of the bearing compensates for any misalignment and acts as a shock absorber, precluding undue vibration.

The resiliency of the bearing also prevents it from being pounded out, so that it is impossible to destroy the bearing under operating conditions, just as it is impossible to cut the bearing or the shaft operating under sand and gritty conditions.

Fellows and Stewart, boat builders of Wilmington, Cal., are installing Cutless Bearings as regular equipment on their power craft and have not had a single failure.

Government Sales

Repeated notices are being issued by the various navy yards covering the sales of surplus Government boats, engines, and other merchandise which is particularly suited to the needs of the motor boat fraternity. These sales are held continuously and information concerning them can be obtained from the supply officers at New York, Boston, Philadelphia, or at Washington. Interested motor boatmen would do well to send for the latest bulletins.

Advertising Index will be found on page 126

An Electric Bilge Pump

A decided improvement for clearing a leaky bilge of accumulated water is being supplied by the Hubbard H. Erickson Company of Chicago, in the form of an electric pump, adapted to operate at 24, 32 or 110 volts. It is permanently installed anywhere near the bottom of a boat and is always ready to go at the turn of a switch. The current consumption is very moderate and varies with the size of the pump. There are several capacities from nine to twelve gallons per minute. It is so constructed that the water chamber will retain water making it unnecessary to prime the pump after an idle period.

Salvage

(*Continued from page 22*)

couldn't think of lettin' him set foot on this deck."

"*You* couldn't think of it? Well, when did *you* take command of *my* ship?"

"You're flotsam an' jetsam, sir, an' practically in the breakers. You're sick, an', for all I know, delirious, so for the sake o' protecton' you, the sick seaman in the fo'castle an' the owners, I'm takin' command."

The master of the Chesapeake reached under his pillow and produced a pistol. "Out of my cabin or I'll riddle you," he barked feebly.

Mr. Gibney departed without a word of protest and proceeded to make his arrangements, regardless of the master's consent. As he and McGuffey busied themselves, laying the leading blocks along the deck, they glanced toward the Maggie and observed Captain Scraggs hurling crates of vegetables overboard in an effort to get at the small boat quickly. "He'll die when the freight claims come in," Mr. McGuffey chortled. "Poor ol' Scraggsy!"

"How're we goin' to git that durned anchor up, Gib?"

"We ain't goin' to get it up. We're goin' to knock out a shackle in the chain an' let her go to glory."

"Anchors is expensive, Gib. Mebbe they'll deduct the price o' that anchor from our salvage."

"By Jupiter, you're talkin,' Mac. We'll just save that anchor, come to think of it."

"How?"

"Just let Scraggsy an' The Squarehead come aboard an' put the ship's towin' cable aboard the Maggie. The Maggie'll just about be able to hold her while us four up with the anchor—*an' cockbill* it agin!"

"They got the skiff overside," McGuffey warned.

"Throw over the Jacob's ladder and help 'em aboard, Mac. Nothin' like bein' neighborly. This here's a delicate situation, what with the old man declinin' our services in favor of a tow by the Maggie, an' it occurs to me if we oppose him our standin' in court will be impaired. I see I got to use my imagination agin."

When Captain Scraggs came aboard, Mr. Gibney escorted him around to the master's cabin, introduced him, and stood by while they bargained. The sick skipper glowered at Mr. Gibney when Scraggs, with a wealth of detail, explained their presence, but, for all his predicament, he was a shrewd man and instantly decided to use Gibney and McGuffey as a fulcrum wherewith to pry a very low price out of Captain Scraggs. Mr. Gibney could not forebear a grin as he saw the captain's plan, and instantly he resolved to further it, if for no other reason than to humiliate and infuriate Scraggs.

"The tow will cost you five thousand, Captain," Scraggs began pompously.

"Me an' McGuffey'll sail you in for four," Gibney declared.

"Three thousand," snarled Scraggs.

"Sailin's cheap as dirt at two thousand. As a matter of fact, Scraggsy, me an' Mac'll sail her in for nothin' just to skin you out o' the salvage."

"Two thousand dollars is my lowest figure," Scraggs declared. "Take it or leave it, Captain. Under the circumstances, bargaining is useless. Two thousand is my last bid."

The figure Scraggs named was probably one-fifth of what the master of the Chesapeake knew a court would award; nevertheless he shook his head.

"It's a straight towing job, Captain, and not a salvage proposition at all. A tug would tow me in for two hundred and fifty, but I'll give you five hundred."

Remembering the vegetables he had jettisoned, Scraggs knew he could not afford to accept that price. "I'm through," he bluffed—and his bluff worked.

"Taken, Captain Scraggs. Write out an agreement and I'll sign it."

With the agreement in his pocket, Scraggs, followed by Gibney, left the cabin. "One hundred each to you an' Mac if you'll stay aboard the Chesapeake, steer her, an' help the Maggie out with what sail you can get on her," Scraggs promised.

"Take a long, runnin' jump at yourself, Scraggsy, old sorrowful. The best me an' Mac'll do is to help you cockbill the anchor, an' that'll cost you ten bucks for each of us—in advance." The artful fellow realized that Scraggs knew nothing whatever about a sailing ship and would have to depend upon The Squarehead for the information he required.

"All right. Here's your money," Scraggs replied and

(*Continued on page 64*)

Beautiful houses amid luxurious surroundings have set a high standard of architectural excellence at Miami Beach. Its standing as a community is established, the maintenance of which is guaranteed by adequate restrictions.

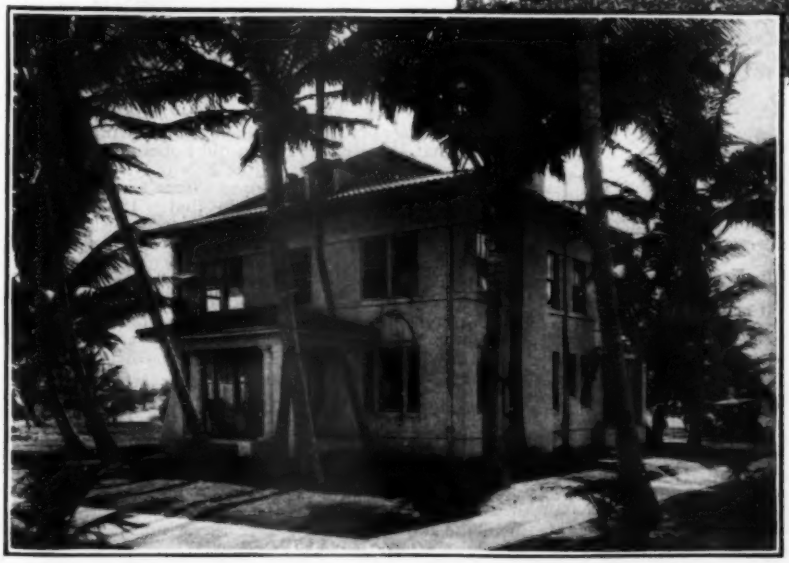
Build Your Winter Home at Miami Beach

In selecting the location for your winter home, you will find Miami Beach ranks first in advantages of climate, beauty of surroundings and diversity of interest.

A comparison of statistics for world famous pleasure resorts shows that throughout the year it has the most ideal climate of any spot in the world.

Miami Beach has been developed as a residence city, with every modern convenience and every resource for pleasure and comfort. It is a place to live and to play, with your choice of every form of outdoor sport.

Write for information about Miami Beach and its superlative advantages.



THE CARL G. FISHER PROPERTIES

MIAMI BEACH FLORIDA

Salvage

(*Continued from page* 62)

handed Mr. Gibney twenty dollars. He and Neils Halvorsen then went forward, got out the steel towing cable, and fastened a light rope to the end of it. The skiff floated off the ship at the end of the painter, so The Squarehead hauled it in, climbed down into the skiff, and made the light rope fast to a thwart; then, with Captain Scraggs paying out the hawser, Neils bent manfully to the oars and started to tow the steel cable back to the Maggie. Half way there, the weight of the cable dragging behind slowed The Squarehead up and eventually stopped him. Exerting all his strength he pulled and pulled, but the sole result of his efforts was to wear himself out, seeing which the Maggie's navigating officer set the little steamer in toward the perspiring Neils, while Captain Scraggs, Gibney, and McGuffey cheered lustily.

Suddenly an oar snapped. Instantly Neils unshipped the remaining oar, sprang to the stern, and attempted, by sculling, to keep the skiff's head up to the waves. But the weight of the cable whirled the little craft around, a wave rolled in over her counter, and half-filled her; the succeeding wave completed the job and rolled the skiff over and The Squarehead was forced to swim back to the Chesapeake. He climbed up the Jacob's ladder to face a storm of abuse from Captain Scraggs.

The cable was hauled back aboard with difficulty, owing to the submerged skiff at the end of it. Captain Scraggs and The Squarehead leaned over the Chesapeake's rail and tugged furiously, when the wreck came alongside, but all of their strength was unequal to the task of righting the little craft by hauling up on the light rope attached to her thwart.

"For ten dollars more each me an' Mac'll tail on to that rope an' do our best to right the skiff. After she's righted, I'll bail her out, borrow new oars from this here bark, an' help Neils row back to the Maggie with the cable," Mr. Gibney volunteered. "Cash in advance, as per usual."

"You're a pair of highway robbers, but I'll take you," Scraggs almost wailed, and paid out the money; whereupon Gibney and McGuffey "tailed" on to the rope and with raucous cries hauled away. As a result of their efforts, the thwart came away with the rope and the quartet sat down with exceeding abruptness on the hard pine deck of the Chesapeake.

"I had an idee that thwart would pull loose," Mr. Gibney remarked, as he got up and rubbed the seat of his dungarees. "If you'd had an ounce of sense, Scraggsy, you'd have saved twenty dollars an' rigged a watch-tackle, although even then the thwart would have come away, pullin' agin a vacuum that way. Well, you've lost a good skiff worth at least twenty-five dollars not to mention the two ash breezes that went with her. That helps some. What're you goin' to do now? Lay the Maggie alongside the bark? I wouldn't if I was you. The sea's a mite choppy an' if you bump the Maggie agin the bark she'll do one o' two things—stave in her topsides or bump that top-heavy deckload o' vegetables overboard. An' if that happens," he reminded Scraggs, "you'll be doin' your bookkeepin' with red ink for quite a spell."

"I ain't licked yet—not by a jugful," Scraggs snapped. "Halvorsen, haul down that signal halyard from the mizzenmast, take one end of it in your teeth, an' swim back to the Maggie with it. We'll fasten a heavier line to the signal halyard, bend the other end of the heavy line to the cable, an' haul the cable aboard with the Maggie's winch."

"You say that so nice, Scraggsy, old hopeful, I'm tempted to think you can whistle it. Neils, he's only askin' you to risk your life overboard for nothing. 'Tain't in the shippin' articles that a seaman's got to do that. If he wants a swimmin' exhibition make him pay for it—through the nose. An' if I was you, I'd find out how much o' this two thousand dollars, towage he's goin' to distribute to his crew. Pers'nally I'd get mine in advance."

"Adelbert P. Gibney," Captain Scraggs hissed. "There's such a thing as drivin' a man to distraction. Halvorsen, are you with me?"

"Aye bane—for saxty dollars. Hay bane worth a month's pay for take dat swim."

"You dirty Scowegian ingrate. Well, you don't get no sixty dollars from me. Bear a hand and we'll drop the ship's work boat overboard. I guess you can tow a signal halyard to the Maggie, can't you, Neils?"

Neils could—and did. Within fifteen minutes the Maggie was fast to her prize. "Now we'll cockbill the anchor," quoth Captain Scraggs, so McGuffey reporting sufficient steam in the donkey to turn over the windlass, the anchor

(*Continued on page* 66)

Baby Gar

Fastest and Most Successful Standardized Runabout Built

50 Miles Guaranteed

$8500

Powered with a 450 H.P. Wood-Liberty Marine Engine. (1550 cu. in.) Speed guaranteed on 50 mile trial.

45 Miles Guaranteed

$7500

Powered with a 300 H.P. Wood-Fiat Marine Engine. (1350 cu. in.) Speed guaranteed on 50 mile trial.

YOU can back your Baby Gar to win any race you care to enter. But it isn't only a racing boat. A big comfortable substantial runabout 33 ft. long, seating eight persons, beautifully finished and as safe and easy to control at any speed as a motor car on a concrete highway. This is the ideal owner's tender for fine yachts, as well as a practical boat for general runabout use. Furnished complete and ready to run.

As a boat Baby Gar has been more completely proved in speed and seaworthiness than any other boat of its type. It has won the biggest trophies of the boat racing world. Built by the same men who produced all of Gar Wood's racing successes—powered with the same type of motors, and fully guaranteed in workmanship, equipment and performance.

Write today for full details and delivery dates
Attractive proposition for dealers

GAR WOOD INC.

7960 Riopelle Street — **Boat Building Plant at Algonac, Mich.** — **Detroit, Mich.**

N. Y. Territory Representative and Service Station, Caleb Bragg, Port Washington, Long Island
Phone Port Washington 257
Chicago Territory Representative, Webb Jay, Standard Oil Building, Chicago, Illinois

Salvage

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was raised and cockbilled, and the Maggie hauled away on the hawser the instant Captain Scraggs signalled his new navigating officer that the hook was free of the bottom.

"The old girl don't seem to be makin' headway in the right direction," McGuffey remarked plaintively, after the Maggie had strained at the hawser for five minutes. Mr. Gibney, standing by with a hammer in his hand, nodded affirmatively, while the skipper of the Chesapeake, whom Mr. Gibney had had the forethought to carry out on deck to watch the operation, glanced apprehensively ashore. Scraggs measured the distance with his eye to the nearest fringe of surf and it was plain that he was worried.

"Captain Scraggs," the skipper of the Chesapeake called feebly, "Mr. Gibney is right. That craft of yours is unable to tow my ship against this wind. You're losing ground, inch by inch, and it will be only a matter of an hour or two, if you hang on to me, before I'll be in the breakers and a total loss. You'll have to get sail on her or let go the anchor until a tug arrives."

"I don't know a thing about a sailin' ship," Scraggs quavered.

"I know it all," Mr. Gibney cut in, "but there ain't money enough in the world to induce me to exercise that knowledge to your profit." He turned to the master of the Chesapeake. "For one hundred dollars each, McGuffey an' I will sail her in for you, sir."

"I'll not take the risk, Mr. Gibney. Captain Scraggs, if you will follow my instructions we'll get some sail on the Chesapeake. Take those lines through the leading blocks to the winch——"

The engineer of the Maggie came up on deck and waved his arms wildly. "Leggo," he bawled. "I've blown out two tubes. It'll be all I can do to get home without that tow."

"Jump on that, Scraggsy," quoth McGuffey softly and cast his silken engineer's cap on the deck at Scraggs's feet. The latter's face was ashen as he turned to the skipper of the Chesapeake. "I'm through," he gulped. "I'll have to cast off. Your ship's drivin' on to the beach now."

"Oh, say not so, Scraggsy," said Mr. Gibney softly, and with a blow of the hammer knocked out the stopper on the windlass and let the anchor go down by the run. "Not this voyage, at least." The Chesapeake rounded up with a jerk and Mr. Gibney took Captain Scraggs gently by the arm. "Into the small boat, old ruin," he whispered, "and I'll row you an' The Squarehead back to the Maggie. If she drifts ashore with that load o' garden truck, you might as well drown yourself."

Captain Scraggs was beyond words. He suffered himself to be taken back to the Maggie, after which kindly action Mr. Gibney returned to the Chesapeake, climbed aboard, and with the assistance of McGuffey, hauled the work boat up on deck.

"Now," Mr. Gibney inquired, approaching the skipper of the Chesapeake, "what'll you give me an' Mac, sir, to sail you in? Has it dawned on you, sir, that if I hadn't had sense enough to cockbill that anchor again you'd be on the beach this minute?"

"One thousand dollars," the skipper answered weakly.

"You refused to let us do it for a hundred. Now it'll cost you two thousand, an' I'm lettin' you off cheap at that. Of course, you can take a chance an' wait until word o' your predicament sifts into San Francisco an' a tug comes out for you, but in the meantime the wind may increase an' with the tide at the flood how do you know your anchor won't drag an' pile you up on them rocks to leeward?"

"I'll pay two thousand, Mr. Gibney."

Without further ado, Mr. Gibney went to the master's cabin, wrote out an agreement, carried the skipper aft and got his signature to the contract. Then he tucked the skipper into bed and came dashing out on deck. The wind was from the northwest and luckily the foreyard was braced to starboard while the mainyard was braced to port, so his problem was a simple one.

"Come here till I introduce you to the jib halyards," he bawled to McGuffey, and they went forward. Under Gibney's direction, the jib halyards were taken through the leading blocks to the winch head; McGuffey manned the winch and the jib was hauled up. "St-eady-y-y! 'Vast heavin'," cried Gibney. "Now then, we'll cast off them jib halyards an' make 'em fast. . . . Right-O . . . Now stand by to brace the foreyard. Bart, for the love o' heaven, help me with this foreyard brace."

With the aid of the winch, they braced the foreyard; then McGuffey ran aft and took the wheel while Mr. Gibney scuttled forward, eased up the compressor on the

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Salvage

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windlass, and permitted the anchor chain to pay out rapidly. With the hammer, he knocked out the pin at the forty-five fathom shackle and leaving the anchor to go by the board, for it worried him no longer, the bark Chesapeake moved gently off on a west-sou'west course that would keep her three points off the land. She had sufficient head sail on now to hold her up.

Mr. Gibney fell upon the main to'gallan'-s'l leads like a demon, carried them through the leading block to the winch head, turned over the winch and sheeted home the main-to'-gallan'-s'l. The Chesapeake gathered speed and Mr. Gibney went aft and stood beside Mr. McGuffey, the while he looked aloft and thrilled to the whine of the breeze through the rigging. "This is sailorizin'," he declared. "It sure beats bumboatin'. Here, blast you, Bart. You're spillin' the wind out o' that jib. First thing you know we'll have her in irons an' then the fat *will* be in the fire."

He took the wheel from McGuffey. When he was two miles off the beach he brought her up into the wind and made the wheel fast, a spoke to leeward. "Sheet home the fore-to'-gallan'-s'l," he howled and dashed forward. "Leggo them buntlines an' clewlines, my hearties, an' haul home that sheet."

The ship lay in the wind, shivering. Mr. Gibney was here, there, everywhere. One minute he was dashing along the deck with a leading line, the next he was laying out aloft. He ordered himself to do a thing and then, with the pent-up energy of a thousand devils, he did it. The years of degradation as navigating officer of the Maggie fell away from him, as he sprang, agile and half-naked, into the shrouds; a great, hairy demigod or sea-goblin he lay out along the yards and sprang from place to place with the old exultant thrill of youth and joy in his work.

"Overhaul them buntlines an' clewlines," he bawled to an imaginary crew. "Set that main-royal." With McGuffey's help the sheets came home, the halyards were taken to, the yards mast-headed, and the halyards belayed to their pin. The main-royal was not set so they fell to on the fore-royal. A word, a gesture, from Mr. Gibney, and McGuffey would pounce on a rope like a bull-dog. With the fore-royal set, Mr. Gibney ran back to the wheel and put it hard over. There being no after sail set the bark swung off readily on to her course, slipping through the water at a nice eight-knot speed. Ten miles off the coast, Mr. Gibney hung her up in the wind again, braced his yards with the aid of the winch and McGuffey, came about and headed north. At three o'clock she cleared the lightship and wore around to come in over the bar, steering east by south, half-south, for Point Bonita. She drew the full advantage of the wind now and over the bar she came, ramping full through the Gate with her yards squared, on the last of the flood tide.

As they passed Lime Point, Mr. Gibney prepared to shorten sail and like a clarion blast his voice rang through the ship.

"Clew up them royals." He lashed the wheel and they brought the clewlines again to the winch head. The ship was falling off a little before the fore-royal was clewed up, so Mr. Gibney ran back to the wheel and put her on her course again while McGuffey brought the main-royal clewlines to the winch. Again Gibney made the wheel fast and helped McGuffey clew up the main-royal; again he set her on her course while McGuffey, following instructions, made ready to clew up the fore-to'-gallan'-s'l. They were abreast Black Point before this latter sail was clewed up, and then they smothered the lower top-s'ls; the bark was slipping lazily through the water and McGuffey took the wheel.

"Starboard a little! Steady-y-y! Keep her as she heads," Gibney warned and cast off the jib halyards. The jibs slid down the stays, hanging as they fell. They were well up towards Meiggs wharf now and it devolved upon Mr. Gibney to bring his prize in on the quarantine ground and let go his port anchor. Fortunately, the anchor was already cockbilled. Mr. Gibney sprang to the fore-top-sail halyards and let them go and the fore-top-sail came down by the run.

"Hard-a-starboard! Make her fast, Bart, an' come up here an' help me with the anchor. Let go the maintop-sail halyards as you come by an' stand by the compressor on the windlass."

The Chesapeake swung slowly, broadside to the first of the ebb and with the wind on her port beam, Mr. Gibney knocked out the stopper with his trusty hammer and away went the rusty chain, singing through the hawsepipe. "Snub her gently, Mac, snub her gently, an' give her the thirty-fathom shackle to the water's edge," he warned McGuffey.

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Salvage

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The bark swung until her bows were straightened to the ebb tide and with a wild, triumphant yell Mr. Gibney clasped the honest McGuffey to his perspiring bosom. The deed was done!

It was dark, however, before they had all the sails snugged up shipshape, although in the meantime the quarantine launch had hove alongside, investigated, and removed those of the crew who still lived. Shortly thereafter the coroner came and removed the dead, after which Gibney and McGuffey hosed down the deck, located some hard tack and coffee, supped and turned in in the officers' quarters. In the morning, Scab Johnny arrived in a launch with their other clothes (Mr. Gibney having thoughtfully sent him ten dollars on account of their old board bill, together with a request for the clothes), and when the agents of the Chesapeake sent a watchman to relieve them they went ashore and had breakfast at the Marigold Café. After breakfast, they called at the office of the agents, where they were complimented on their daring seamanship and received a check for one thousand dollars each.

"Well, now," McGuffey declared, after they had cashed their checks, "Seein' as how I've become independently wealthy by following your lead, Adelbert, all I got to say is that I'm a-goin' to stick to you like a limpet to a rock. What'll we do with our money?"

For the first time in his checkered career Mr. Gibney had a sane, sensible and serious thought. "Has it ever occurred to you, Mac, how much nicer it is to have a few dollars in the bank, good clothes on your back, an' a credit with your friends? Me, all my life I been a come-easy, go-easy, come-Sunday,-God'll-send-Monday sort o' feller, until in my forty-second year I'm little better'n a beachcomber. It sure hurt me to have to beg that ornery Scraggs for a job; if I ever sighed for independence it was the other night in Halfmoon Bay when, footsore an' desperate, we stood by an' let that little wart harpoon us. So now, when you ask me what I'm goin' to do with my money, I'll tell you I'm going to save it, after first payin' up about seventy-five bucks I owe here an' there along the Front. I'm through drinkin' an' raisin' hell. Me for a savings bank, Bart."

"I said I'd string with you an' I will. After we deposit our money suppose we drop down to Jackson Street wharf an' say hello to Scraggs. I got a great curiosity to see what that new engineer has done to my boiler."

A 100% Small Boat Radio

(*Continued from page* 34)

making the connections, and if the novice handles the soldering copper with any degree of facility it might be advisable to solder the connections.

It will be necessary to take 2 or 3 taps off the honeycomb coil. The first one should be made about ⅓ the distance from the inside of the coil. This can be done by taking a small penknife blade and first prying up one of the wires. It is then scraped bare and the lead wire is soldered in to it. Two more taps should be made a short distance up the coil from the first one and when the set is tried out each one of the connections should be used to determine the one that is most satisfactory. All of the rest of the connections should be made exactly as shown.

The little loop to be used with the outfit is wound on a wooden frame measuring about 10 x 12 x 3 inches. Upon this are placed 23 turns of No. 24 double cotton covered wire. It might be a good idea to put several loops of tape around this wire to prevent it from losing its place. The outfit can be mounted inside the loop frame.

With the connections made everything is ready for reception, and of course the first thing to do is to light the filament of the vacuum tube. The variable condenser is first manipulated and the tickler coil is moved about freely in the vicinity of the grid coil. Probably no sound will be heard at first and then there will be a sudden rush of hissing that is so characteristic of super-regenerative circuits. The tickler coils should not be brought too close since this will prevent oscillation. Touching the grid with the finger will often start the circuit oscillating. It may also be necessary to turn the loop a little, and if there is any broadcasting going on within 35 or 50 miles the little set will be found to pick it up and deliver it to the telephone receivers with great volume. In fact, if a single circuit Baldwin receiver is used with a small horn the music can be made available to several persons on board providing a broadcasting station is within a few miles.

If the novice wishes, one or two stages of amplification can be connected to this receiver which will make possible reception over great distances and with a good degree of volume. This amplification can also be operated with dry cell tubes, making the owner entirely independent of the troublesome storage battery which is so unsuited to portability.

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Cruising in Sheltered Seas

(*Continued from page* 43)

Those elements and one other; the lure of the new and the unknown. One gets intimate glimpses of a country and a people different from those with which he is familiar. There is always the pleasant anticipation of something unusual just beyond the next bend. There is a gradual transformation which fascinates him; seagulls change to pelicans; conifers to cocoanuts; mud to coral; winter to summer.

This line of water communication, sheltered from the storms of the open sea, has been surveyed and charted by the U. S. Coast and Geodetic Survey. The amateur yachtsman and the motor boat enthusiast will find full information for making a trip from New York to the southern waters in a handy little volume published by that Service under the title *Inside Route Pilot, New York to Key West.* A companion volume covers the route from Key West to New Orleans.

Cruise No. 7, New York to Florida

Via Inside Route

(Use MoToR BoatinG's Charts Nos. 4, 9, 12, 22, 23, 25, 26, 30, 32, 35, 36, 37, 38, 39, 40, 41, 46, and 47).

(*See Cruise No. 5 New York to Philadelphia, for details between New York and Philadelphia*)

	Coast and Geodetic Survey Chart Nos.	Distance Between	Total Miles From New York	Total Miles From Miami
New York City	...	...	...	1482
Philadelphia	295	107	107	1375
Chester	295	17	124	1358
Wilmington	295	12	136	1346
Delaware City	294	11	147	1335
Chesapeake and Delaware Canal (3 locks) to Chesapeake City	294	14	161	1321
Turkey Point (To Baltimore 40 miles)	1226	12½	173½	1308½
Sandy Point, Annapolis (Baltimore to Sandy Point 23 miles)	1226	37½	211	1271
Cedar Point, Patuxent River	1225	50	261	1221
Smith Point, Potomac River	1224	30	291	1191
Rappahannock River Entrance	1223	21	312	1170
Wolf Trap	1222	13	325	1157
Thimble Shoal	1222	27	352	1130
Norfolk	1227 451 406	17	369	1113
Coanjock	1228	47	416	1066
(Via Albemarle & Chesapeake Canal)	1229			
Pamlico Sound to Beaufort, N. C.	1231 1232	162	578	904
(Via Dismal Swamp Canal 166 miles)	1234 420			
Frying Pan Shoal	1234	102*	680	802
(Along shore to C. Fear Riv. 100 miles)	148			
Wilmington 31 miles up.	150 151			
Winyah Bay	152	84*	764	718
(Along the shore 90 miles)	424			
Charleston	421	80	844	638
(Outside 71 miles)	153			
St. Helena Sound	153	55	899	583
Beaufort, S. C.	437	20	919	563
Port Royal Sound	154	12	931	551
Savannah	440	37	968	514
Ossabaw Sound	1241	26	994	488
St. Catherine Sound	1241	15½	1009½	472½
Sapelo Sound	1241	14½	1024	458
Doboy Sound	1241	14	1038	444
Altamaha Sound	1241	7	1045	437
St. Simon Sound (Brunswick, Ga., 5 miles up)	1241	22	1067	415
St. Andrews Sound	157	10	1077	405
St. Marys Entrance (Fernandina)	157	22	1099	383
St. Johns River	577	30	1129	353
(Jacksonville, Fla., 26 miles up)	158			
St. Augustine Inlet (St. Augustine)	159	39	1168	314
Ormond	160	48½	1216½	265½
Daytona	160	5	1221½	260½
Mosquito Inlet (New Smyrna)	160	12	1233½	248½
Haulover	161	25	1258½	223½
Titusville	161	10	1268½	213½
Cocoa	162	18	1286½	195½
Eau Gallie	162	17	1303½	178½
Melbourne	162	3½	1307	175
Fort Pierce	13	48	1355	127
Jensen	163	15½	1370½	111½
St. Lucie Inlet (Stuart)	163	8½	1379	103
Jupiter Inlet	1248	17	1396	86
West Palm Beach	1248	17	1413	69
Hillsboro Inlet	1248	31	1444	38
New River Inlet (Ft. Lauderdale)	165	12	1456	26
Miami	583	26	1482	..

* This portion of the route is the only part which is outside on the Atlantic Ocean.

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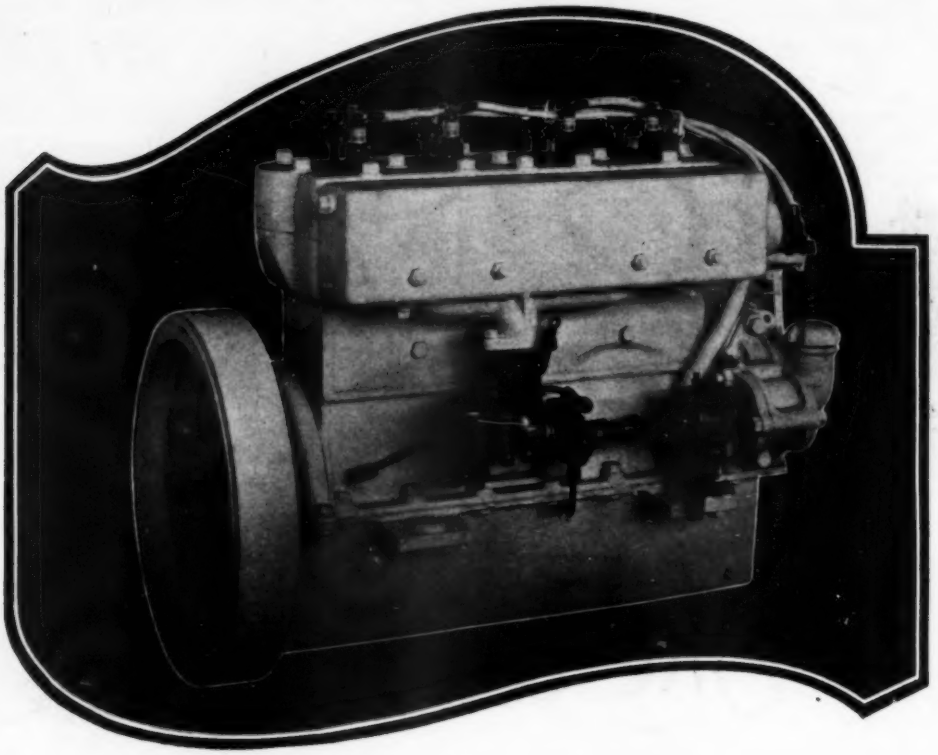

1924 Model INTERNATIONAL-16

$187.50 *Complete and Ready to Run*

Deliveries commence August 25th, 1923

4-Cylinder 4-Cycle 16 H.P. at 1000 R.P.M.

Every wearing part except water pump, oil pump and ignition interchangeable with standard Ford parts

THIS is the same International-16 we have sold during 1923 for $365.00, now offered with open flywheel, bronze gear oil and water pumps and Atwater Kent ignition, at the unheard-of price of $187.50, without reverse gear. Enclosed reverse gear with couplings and built-in Rear Starter can be supplied for $61.00 extra. This engine is not cheapened in any way—same power, same cylinder capacity, same big, sturdy crankshaft, bearings and other parts.

We find there is a big demand for a high grade 4-cycle engine of this size at the lowest possible price. For the builder who wants to put out a low priced stock boat of good size or speed, for the owner who has a good serviceable hull that doesn't warrant a high priced engine,—for the fisherman or commercial boat owner,—for the amateur boat builder,—for the engine dealer who wants to beat all competition—there are a thousand and one places where the 1924 model INTERNATIONAL-16 is just the thing. It is also excellent for twin-screw installations, costing less for two complete engines than for any other engine of equal power.

World-Wide Parts Service for INTERNATIONAL OWNERS

All working parts of the INTERNATIONAL-16 (except water pump, oil pump and ignition), can be instantly duplicated from stock by any Ford service station throughout the world. This means a saving of thousands of dollars for INTERNATIONAL owners, and a further saving of thousands of dollars worth of time when they are in a hurry for replacement parts. Any Ford service man can overhaul this engine at small cost. It is the best motor for the foreign owner and export dealer who must especially consider the parts service problem on any engine he buys.

DETROIT INTERNATIONAL U.S.A.

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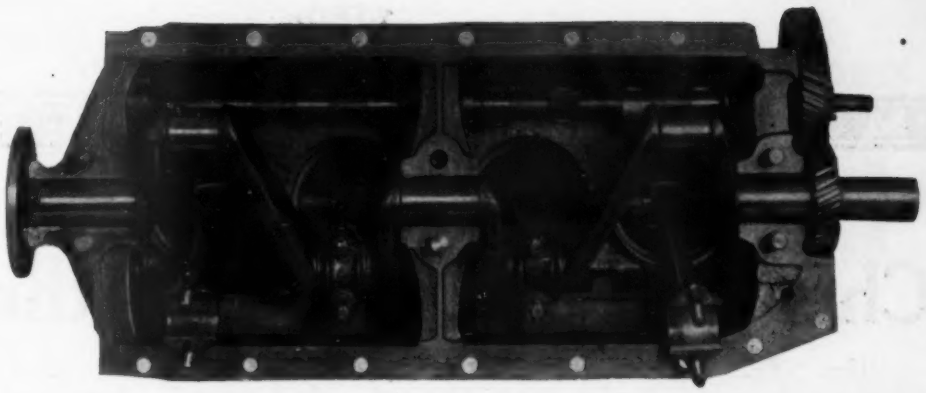
The strength of the INTERNATIONAL-16 is a logical result of its sturdy construction and compact design. The solid upper crankcase is cast integral with the cylinders, assuring permanent alignment of the cylinders and bearings. Every working part operates in a bath of oil with positive lubrication from a bronze geared oil pump.



A Big Powerful Engine for Runabout or Cruiser

Bore 3¾ inches, Stroke 4 inches
18 H.P. at 1200 R.P.M.
16 H.P. at 1000 R.P.M.

Weight only 290 pounds
14 H.P. at 800 R.P.M.
10 H.P. at 500 R.P.M.

The price of $187.50 f.o.b. Detroit covers the engine with complete equipment including Atwater Kent ignition, Zenith carburetor, propeller coupling, starting crank, priming cups, spark plugs, spark plug wiring and oil pressure gauge. Handsomely finished with gray engine enamel. Supplied with reverse gear with built-in rear starter and couplings for $61.00 extra. Boxing for Export Shipment $7.50 extra.

A few details of the INTERNATIONAL-16

MANIFOLD: Special design with intake and exhaust cast integral enabling operation on either gasoline or kerosene.

CARBURETOR: Zenith (one inch size). This carburetor gives splendid results as well as exceptional economy. Only one adjustment is necessary; the rest is automatic, the speed instantly responding to the throttle.

IGNITION: Atwater Kent Type LA. (No coil is furnished as a single Ford coil may be used with the vibrator screwed down tight making it non-vibrating. This may be obtained at small cost in any Ford Service Station.) An Atwater Kent non-vibrating coil will be furnished at an extra charge of $5.00. This coil is absolutely waterproof.

Where Magneto is desired instead of Atwater Kent System an extra charge of $10.00 is made in addition to cost of magneto as suitable drive, bracket, etc., must be provided. Any standard make magneto can be installed or purchaser may do this as the only labor involved is the insertion of four screws.

LUBRICATION: A bronze geared oil pump draws oil from large reservoir in base and distributes it to troughs beneath connecting rods. A pressure gauge which may be mounted on dash or bulkhead gives visible evidence at all times as to lubrication. A float gauge indicates quantity of oil in base.

WATER PUMP: Made entirely of bronze. This is of the gear pump type and is silent in operation. Water is forced through water jackets of cylinders, cylinder head, intake and exhaust manifolds. This insures a cool exhaust as well as a properly heated intake.

CYLINDERS: Four, cast en bloc. This cylinder casting is the real foundation of the motor as the casting includes also the upper half of crank case, the supports for crankshaft bearings and camshaft bearings, the valve stem guides, valve ports, water jackets, and manifold passages.

CYLINDER HEAD: Removable cylinder head, water jacketed, containing spark plugs and relief cocks. Quickly removed for scraping carbon, grinding valves, etc.

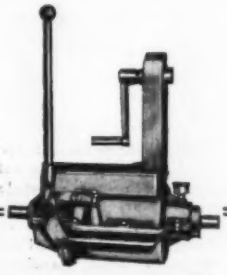
SALT WATER EQUIPMENT: All INTERNATIONAL motors are equipped for Salt Water use.

PROPELLER AND SHAFT: Prices quoted on request.

What We Have Done for Boat Owners

With the new 1924 model INTERNATIONAL-16 we have now placed the advantages of first class 4-cylinder 4-cycle construction within the reach of every man who owns a motor boat, or would like to own one. No more second hand or rebuilt engines, no more worn-out automobile motors, no more troublesome 2-cycles or motors of one or two cylinders. In every case it is cheaper and better to get an INTERNATIONAL-16 for $187.50.

When Henry Ford brought out his first 4-cylinder runabout some 17 or 18 years ago, he liberated automobile owners from the cheap "one-lung" cars they used in those days and incidentally enlarged the potential market for automobiles by several thousand per cent. Few people realized at the time what it would ultimately mean to the automobile industry. In exactly the same way we have enlarged the potential market for motor boats by providing a bigger and better engine for less money than ever before.



The Reverse Gear we supply has a rear starter neatly built in as an integral part of the gear. This starter saves the cost of an electric starter. The gear reduction saves strength in cranking the engine. It doesn't take up any more room in the boat and saves stooping and bending to turn the engine. All working parts are completely enclosed and operate in a bath of oil.

DETROIT INTERNATIONAL U.S.A.

MARINE DETROIT INTERNATIONAL U. S. A. MOTORS

Cheap in Nothing But the Price

The INTERNATIONAL-16 is a high grade engine from stem to stern. It is carefully designed, accurately machined to close limits, and finished to equal engines of several times the price. And it runs beautifully—smoothly, quietly, powerfully, free from vibration, easy to start and easy to control because it is so flexible.

Stop and think whether you don't need one of these motors. Even if you have an old boat, you'll probably find it cheaper to buy a new INTERNATIONAL-16 than to have your old motor overhauled and repaired.

A season of service in all kinds of boats has demonstrated the excellent quality and great reliability of the INTERNATIONAL-16. You know it is made of the best of materials and is a design which will never be out of date. It is a big thing to know that you can always secure repair parts during the life of the motor.

OUR PROPOSITION FOR DEALERS AND BOAT BUILDERS

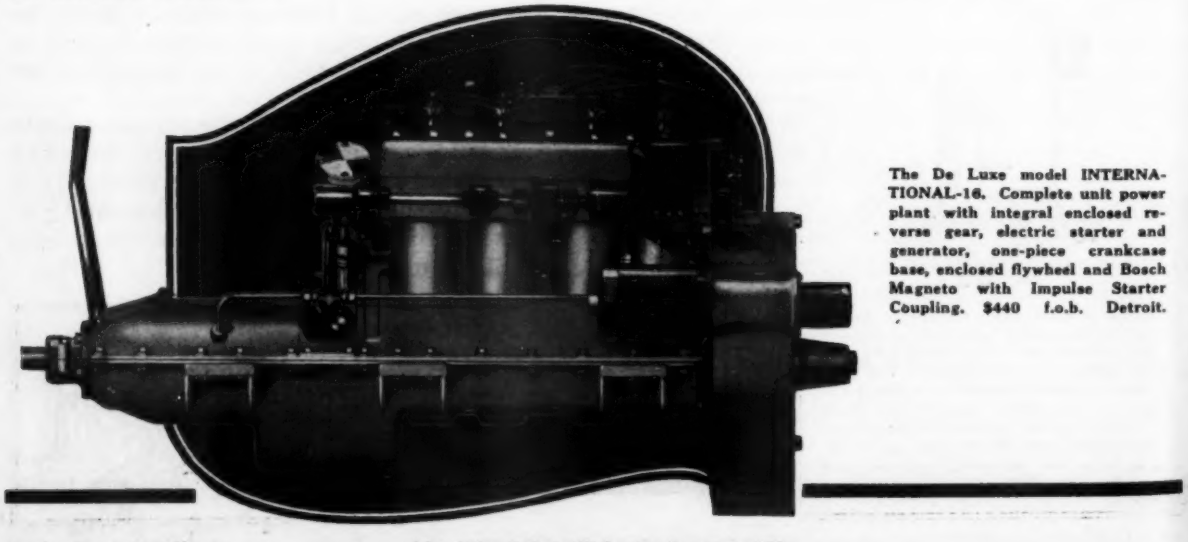
We don't have any trouble in selling these engines as fast as we can build them. However we are always glad to extend our distribution into new territories. If the INTERNATIONAL-16 is not already represented in your locality, let us send you our proposition. It is a money maker for the live dealer and builder. Write or wire today.

INTERNATIONAL MANUFACTURING COMPANY
1435 Franklin St. Detroit, Mich., U. S. A.

EXPORT ORDERS

Our Export Department located at 132 Nassau St., New York City, is in position to give particular attention to inquiries and orders from foreign countries. Data will be furnished upon request and we invite you to avail yourself of this service.

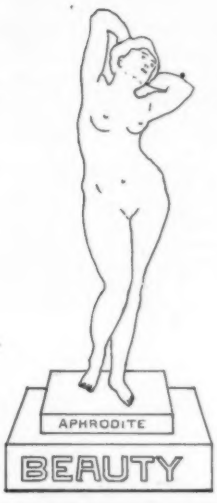
This engine makes a peculiarly desirable proposition for export due to its compactness, small original and shipping cost and also the fact that spare parts are available in practically any part of the civilized world.



The De Luxe model INTERNATIONAL-16. Complete unit power plant with integral enclosed reverse gear, electric starter and generator, one-piece crankcase base, enclosed flywheel and Bosch Magneto with Impulse Starter Coupling. $440 f.o.b. Detroit.

Advertising Index will be found on page 126

Advertising Index will be found on page 126



THE STANDARDIZED AUTOMOBOAT TRADE MARK

FRANK C. LEYHE, PRES.
FRED C. CURTIS, V-PRES.

THE AUTOMOBOAT MANUFACTURING COMPANY

FIRST NATIONAL BANK BLDG
TEL. CENTRAL 3000
CHICAGO, ILL.

TO SPORT LOVING AMERICANS

THE AUTOMOBOAT BRINGS THE EXHILIARATING SPORT OF KINGS WITHIN THE REACH OF EVERYONE - EITHER THE COMPLETELY EQUIPPED SEDAN OR COUPE TYPE FOR ONLY $750.00 f.o.b. CHICAGO.

THE AUTOMOBOAT WILL IMPRESS YOU WITH ITS RICHNESS, VALSPARRED IN BEAUTIFUL COLORS, HAS THOSE BIG COMFORTABLE SEATS AND FINE TAPESTRIES. THE MOTOR IS A BIG CAPABLE FELLOW WITH FOUR POWERFUL CYLINDERS TO SPEED YOU ON TO TWENTY FIVE MILES PER HOUR.

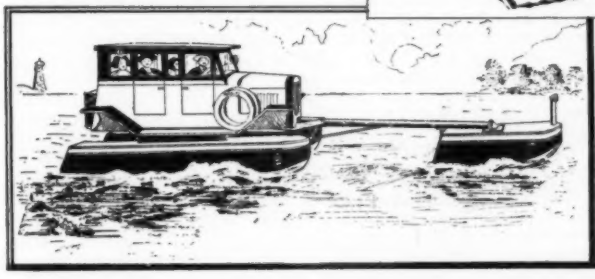
ENCLOSED BODIES KEEP YOU SNUG IN MARCH OR DECEMBER-JUST OPEN THEM WITH THE SPRING AND KNOW THE PLEASURE OF THE WATERWAYS, THE GREAT WATER HIGHWAYS THAT SPREAD FROM NEW YORK TO MONTANA AND FROM CANADA TO THE GULF. YOU WILL PLAN A 2 000 MILE TRIP IN THE AUTOMOBOAT RATHER THAN THE DUSTY TRAILS IN THE AUTOMOBILE. THE RIVERS AND LAKES ALL CALL TO YOU.

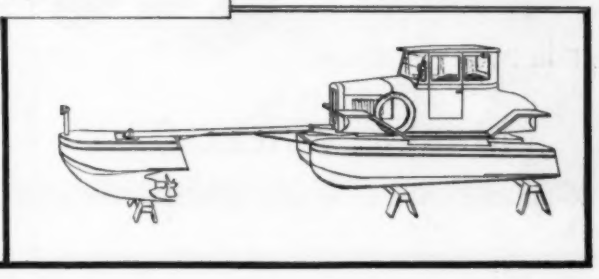
WE BUILD INTO THEM ALL THAT YEARS RESEARCH HAVE TAUGHT. EVERY AUTOMOBOAT GOES TO ITS PROUD OWNER WITH AN UNQUALIFIED GUARANTEE FOR ONE YEARS HARD PERFORMANCE -IT WILL BE FINE AFTER FIVE. BUILT OF NON-RUST MATERIALS IT REQUIRES BUT LITTLE CARE TO KEEP IT LUXURIOUS. EVERY PART AND PARCEL IS OF THE BEST.

THRO' THE LONG WINTER WE WILL BUILD HUNDREDS OF THEM FOR THE PLAYGROUNDS OF FLORIDA, AND SOUTHERN PORTS. HUNDREDS MORE FOR ALL OF AMERICA AND CANADA.

RESPECTFULLY YOURS,

PRESIDENT.

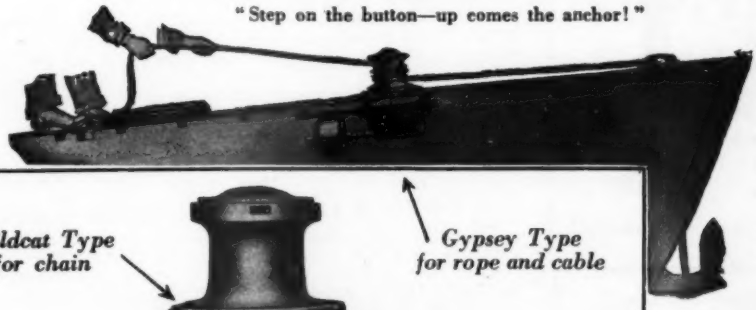


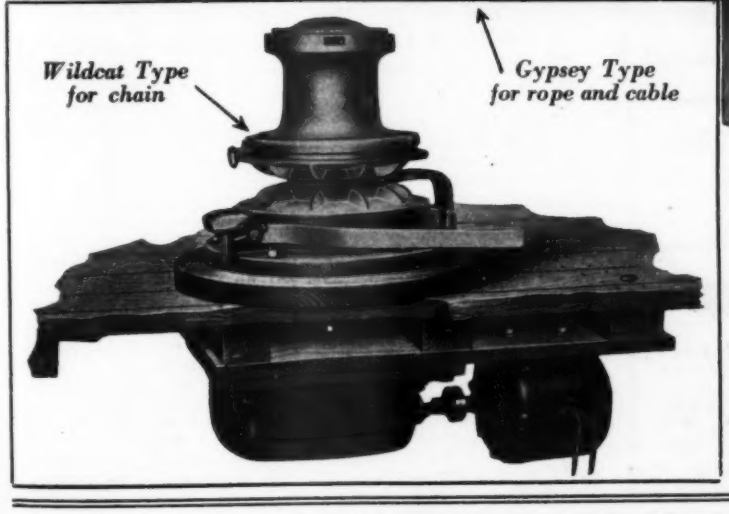


Don't struggle with the anchor—get an

A-E-CO Motor Boat Electric Windlass

"Step on the button—up comes the anchor!"





When you want your anchor on deck all you do is step on the button—the Windlass hauls it up. Expensive? Decidedly NO! Every motorboat owner can afford one.

Simple, compact, strong, easy to install. Furnished for any voltage. Will operate on your storage battery without draining it. Built for rope and chain.

Fine for hoisting and holding sail.

For full particulars and prices write to our nearest distributor listed below

American Engineering Co.

2419 Aramingo Ave.
Philadelphia, Pa.

Distributors—Motor Boat Electric Windlass

WALTER H. MORETON CORP.
780 Commonwealth Ave., Boston, Mass.
SMITH-MEEKER ENGINEERING CO.
123 Liberty St., New York City.
JOHN S. MARTIN CO.
343 N. Massachusetts Ave., Atlantic City, N. J.
BELLE ISLE BOAT & ENGINE CO.
9662 E. Jefferson St., Detroit, Mich.
H. F. W. RASMUSSEN
515 S. Peters St., New Orleans, La.

Yard & Shop

(*Continued from page* 45)

Electric Equipment for New Barges

The Westinghouse Elec. & Mfg. Company has been awarded the contract for the pilot house and engine room control and electric propelling and switching equipment for the first Diesel Electric Barge now being built for the Standard Oil Company of New Jersey by the Newport News Shipbuilding and Dry Dock Company.

The barge will be the largest self-propelled unit of the Standard Oil of New Jersey fleet in the Chesapeake Bay. It will be 210 feet long, 38 feet wide, 16 feet deep and have a capacity of 11,000 barrels. McIntosh & Seymour Diesel engines will drive two Westinghouse generators of 185 k.w. at 275 revolutions per minute. The speed of the barge will be about 9 knots an hour. The barge will be completely electrically equipped. The main Westinghouse motor of 455 h.p. will drive the propeller 100 revolutions per minute.

A Diesel Hand Book

A new publication called the Diesel and Oil Engine Hand Book, just published by the Technical Publishing Company of Los Angeles, and distributed by the Holmes Book Company, also of Los Angeles, Calif., is one of the most valuable hand books for anyone interested in Diesel engine operation or maintenance. The book is very complete and in its eight chapters, deals with all phases of the heavy oil engine. The calculations of power are treated separately in the first chapter, while the subsequent ones handle such other items as the valve arrangements, fuel valves, lubricants, and a large number of other subjects, including also the rules for licensing engineers on motor ships. There are also numerous tables of standards for temperatures and compression relations, which the engineer will find useful.

Motor Boat Show January Fourth

The lease for the use of the Grand Central Palace Exposition Building has been negotiated which assures the Motor Boat Show being held between January 4, and January 12, 1924. The time is synchronous with the New York Automobile Show, which will be held in another building. The building will be available for the installation of exhibits from midnight of January 1 to 5 P. M., January 4. The show will open Friday evening, and run through the following week as usual. Floor diagrams, application forms, etc., are in preparation and will be sent out as soon as possible. Ira Hand, the Secretary of the National Association of Engine and Boat Manufacturers is ready to supply any desired information.

A New Reference Book

One of the most useful books which we know is the one Who's Who in America, published by A. N. Marquis & Co., Chicago. This book contains over 3,500 pages and biographical sketches of nearly 25,000 of the leading living men and women of the country. Questions continually arise as to the business or address, or any other prominent feature of any one of many persons. All these questions are correctly answered in this book, and it tells just the things one wants to know about people.

English Director Touring U. S.

The paint and varnish manufacturing methods of American producers are now being studied by J. Colaco Osorio, representing the Ripolin Company of Paris, Amsterdam and London. He is traveling through all manufacturing centers as a guest of the Glidden Company, with whom the Ripolin Company became affiliated several years ago. Among his comments are the following: "I have been interested to find that here in America, Ripolin Enamel is now being used for fine interior decorating in hotels, clubs and residences, as well as on the finest motor cars, steamships and private yachts. In Europe enamels have already taken the place of ordinary paint, and are used extensively for all exterior work."

Shatter Proof Glass

An excellent material for windshields and port lights is the Armor glass, developed particularly for service where it is liable to breakage, but at the same time where a breakage might involve troublesome results. It is made so that it is just as clear as plate glass, but it is many times stronger and tougher. In fact, thicknesses above ¼-inch will actually stop a .45-calibre jacketed bullet. It is proof against breakage by collision, or other accident, and even if cracked it will remain watertight.

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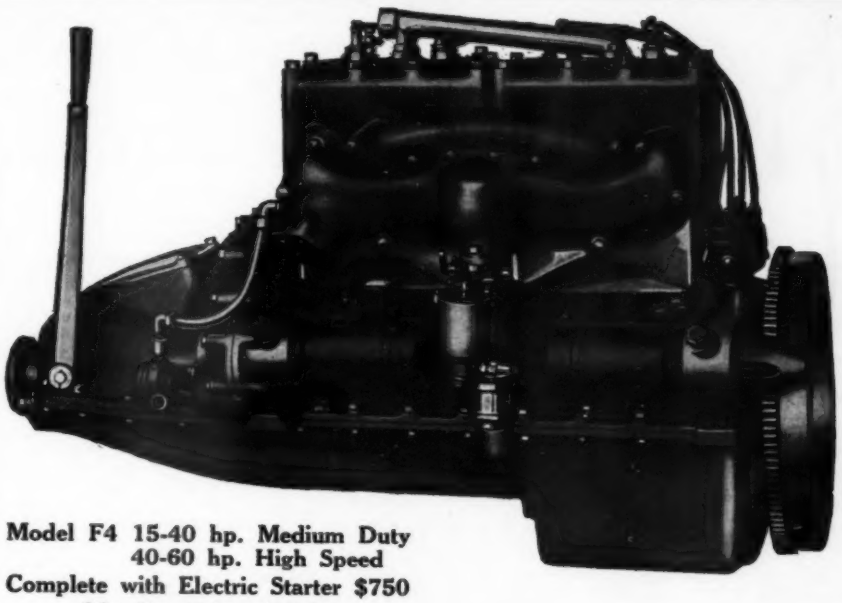

Model F4 15-40 hp. Medium Duty
40-60 hp. High Speed
Complete with Electric Starter $750
Other Sizes 10 hp. to 100 hp.

Why You'll be proud to tell your friends: "There's a Scripps Motor in my boat"

There is nothing snobbish or false in the pride a Scripps owner feels when some boat-wise person asks the make of power-plant —it comes from the natural satisfaction of knowing that the motor is the one recognized everywhere as the best there is.

The Scripps is the choice of the experienced—not because of a few special features — but because it is thoroughly worthy all the way through. Because the co-ordination of skilful design—high grade materials and conscientious workmanship results in a motor that will deliver consistent and constant service under all conditions.

The class of people who own Scripps motors are those who demand results. For seventeen years the Scripps has given results in the shape of power, quietness, unfailing reliability and long endurance beyond comparison with any other marine motor.

Measured by the long and satisfactory service that is built into every Scripps motor—it is the most economical you can own.

There is a Scripps dealer in your locality who will render service in keeping with Scripps policies.

A Few Salient Points

All moving parts of mptor are inclosed.
Gas is pre-heated before it passes into cylinders.
Extremely long connecting rod increases life of cylinders, pistons and rings.
Lubrication is pressure feed. Duplicate pump system makes thorough and constant lubrication.
Every part accessible for easy cleaning and adjustment.

1924 Catalog now ready

SCRIPPS MOTOR COMPANY

5819 Lincoln Avenue **Detroit, Michigan**

The Motor that Scripps *Crossed the Atlantic*

Navigation in Ocean Racing

(*Continued from page* 17)

appeared a faint radiance where the sun had last been seen, and I called "Stand by" and trained my sextant on the luminary. The radiation increasing suddenly in brilliance, I feverishly tried every shade glass from pale green to dark red, and opened my mouth to call "Mark!"—when Bam! on the weather bow a wave broke and showered my sextant with spray.

After that, naturally, it only remained to drop below and dry the mirrors and shade glasses with tissue paper, while the watch on deck kept up the refrain, "The sun, Al. It's fine now. Make it snappy." Three minutes later when I appeared on deck the sun had fled and the interval of watchful waiting on my part, and vindictive waiting on the part of the sea, began again. No less than four times in succession have I dropped below to dry my sextant just as the sun was about to shine, and one day I started in to get a sight for longitude and wound up with a meridian altitude at noon.

In all ordinary cruising it is a simple matter to run before the wind while taking sights, and so keep the spray down and the instrument dry. But when you are racing you are racing, and there is no disposition among any of the crew, least of all the navigator, to run off the course to make navigation easy. Once you start chasing the sun on a cloudy day you are lost. You can run all over hell's acre and not find it.

The above gives in some detail the difficulties of the deck work, but it doesn't tell the whole story. For one who, like myself, is subject to a certain inconvenience on first putting to sea in rough weather, there are pleasanter occupations than crouching under closed hatches poring over logarithmic tables. Passionately fond of navigating though I am, there are moments when I wish I didn't have to lie on my stomach to do it. I would rather forget all about my stomach. And yet one might as well take to the deck in the first instance as wait for an unusually large wave to deposit his books and papers there for him. So, choosing a central location in the cabin where everybody coming or going may step over me, I lie prone and work my sights.

Occasionally, as on our return voyage from Bermuda, there is an added excitement. I had just completed a morning sight, and was sitting under the cabin skylight, books and chart spread about me, waiting for the matutinal eggs to boil. A wave crashed on deck and hurtled toward the skylight, which has been closed but was not dogged down. With a flip the water raised one wing of the light and poured down on me and all my navigating material, and it took my shipmate, Linton Rigg, several moments to convince me that we were not sinking. Fortunately, I had changed into dry clothes only a few minutes before.

The more I mingle with yachtsmen the more I find how singularly uninformed I am about yachting matters. By attending all the dinners and meetings of the Cruising Club next winter I may arrive at the happy point of being too bashful to write at all for publication. What disturbs me at the present moment is that I wrote no longer than a year ago that star navigation is virtually impossible on small boats. By looking over the data sheets which the owners and navigators of the racing yachts have sent me I find that not only is it possible, but that it was practised successfully by several. Of course, there is that rumor of the perfect star fix and the inexplicable current, but on the other hand, there is the evidence of that reliable ex-destroyer navigator, John Parker, who navigated the winning Malabar almost entirely by star observations.

So I must qualify my former assertions by saying that star work on small boats is impossible to the select group who navigate the way I do. And I may qualify the latter remark by saying that out of perhaps a hundred nights at sea in the last two years I haven't seen Polaris shine clear and true at dusk more than ten times or at dawn more than twice. This accounts in part for my disinclination toward star navigation. It happens to have been my experience in several months of continuous cruising that the sun was so reliable for morning or afternoon longitude sights that fiddling with stars bearing easterly or westerly was unnecessary. And as for crosses on the two stars—the navigational urge finds its zero hour with me at sunset.

Concerning the general conditions for navigating in the race, the following comments of various navigators will be found interesting.

Says Captain Dingle, writer of blue water stories, who navigated Gauntlet with an unrated pocket watch: "Conditions fair. Some sort of sight possible every day but one. Heavy sea and hard winds at times, but nothing to bother a sea boat. Estimate strongest wind to be 9 Beaufort." To anyone but a hardened sea dog like Captain Dingle a wind of 9 in the Beaufort scale would be considered some zephyr.

F. H. Stone, Jr., navigator of the schooner Flying Cloud,

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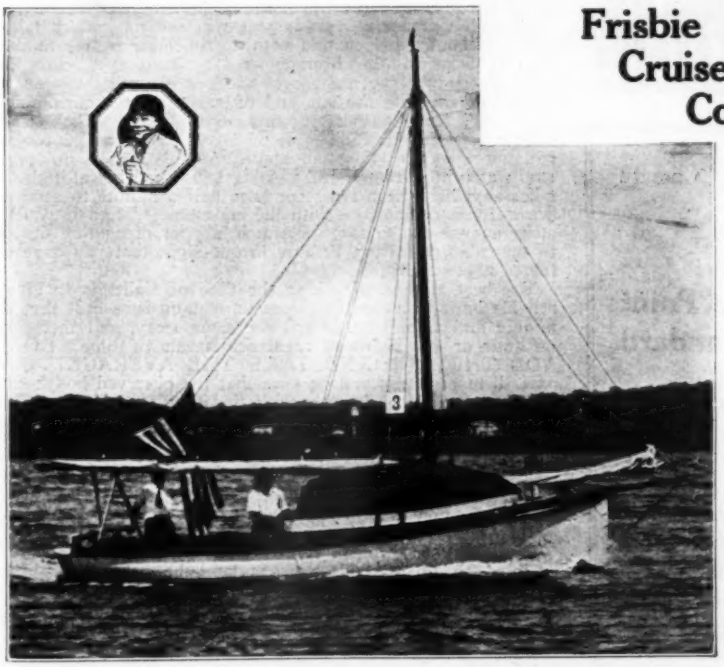
FRISBIE

VALVE-IN-HEAD MOTOR

Start of the 30-ft. and under class for the Cruiser Championship of the Connecticut River at the Connecticut River Regatta, June 30. The leading boat with the tall mast is the "Felisi." She was the first on the get-away at Middletown and the first to finish, in Stonington 58 miles away.



"Felisi," Winner of the Cruiser Championship of the Connecticut River, Middletown to Stonington—58 miles. Owned by T. M. Russell, ex-commodore of the Middletown Yacht Club. She is equipped with a Model FB-2, 2-cyl., 10-14 H.P. Frisbie.

Frisbie Powered Boat Wins Cruiser Championship of Connecticut River

NATURALLY we are pleased that one of the events of the Connecticut River Regatta should go to a Frisbie powered boat. However, we find our greatest gratification in the fact that the performance of the Felisi's Frisbie is but typical of the power and reliability shown by Frisbie Motors everywhere.

Frisbie Valve-in-Head Motors are now made in 14 models. Descriptions and specifications gladly furnished upon request.

THE FRISBIE MOTOR CO., 7 College St., Middletown, Conn.

Manufacturers for over 20 years of internal combustion engines for the propulsion of boats

Frisbie VALVE-IN-HEAD MOTOR

Navigation in Ocean Racing

(*Continued from page* 88)

informs me: "Latitude sights very hard to get. Only two obtained (June 13 and 15). Stars not attempted until nearing the islands and then unobtainable on account of haze." In similar words S. C. Talbot, navigator of Surprise, says: "Conditions very poor. No latitude on account of overcast sky on June 14 and 16. However, lots of sun morning and afternoon of June 14, as well as the morning of June 17."

These remarks of Messrs. Stone and Talbot are typical of the general run. On Seafarer we were favored with glimpses of the sun for our meridian altitude on every day but one, but this, I believe, was exceptional luck.

The genial Herbert L. Stone, organizer and energizer of the Bermuda race, and editor of *Yachting* (to whom, by the way, I am indebted for several sets of positions on the accompanying charts) has this to say: "Conditions difficult. Hard to obtain true altitude on account of motion of ship and proximity of eye to water. Refraction in the Stream great."

Aspirants for future honors in Bermuda races will do well to mark these words of Mr. Stone's, for they refer to conditions that are practically static for the classic course. Old-timers tell me that you will never see a Christian, God-fearing sunset in the Stream, and that Stream conditions prevail virtually from Long Island to Bermuda. There is always the haze, and always the refraction, which, if not excessive at times, at least keeps you guessing and undermines your faith in your sights. In small boats we shall always have the hindrance of a low height-of-eye, while the motion of the little fellow does more than disturb the internal arrangements of the navigator.

I have found it an aid to consistent navigating, however, to form the habit of snapping the sun always when the boat is at the height of her roll. Standing with the sextant to your eye and gaining whatever support you can from shrouds or rigging, you will find by successive sights taken haphazard that the sun seems to alter its rate of ascent or descent. This comes from "marking" first when the boat is in a hollow and the horizon is close to you, and next when you are on the crest and your horizon is extended. The difference may not be great, but it is an error which should be avoided.

Aboard commercial vessels you will see navigators taking sights without a helper, and with no timepiece nearer to them than the chart-house chronometer. By long experience they have ascertained the number of seconds elapsing between the instant of catching the sun and of gazing at the chro. They never vary from the time for this routine a fifth of a second.

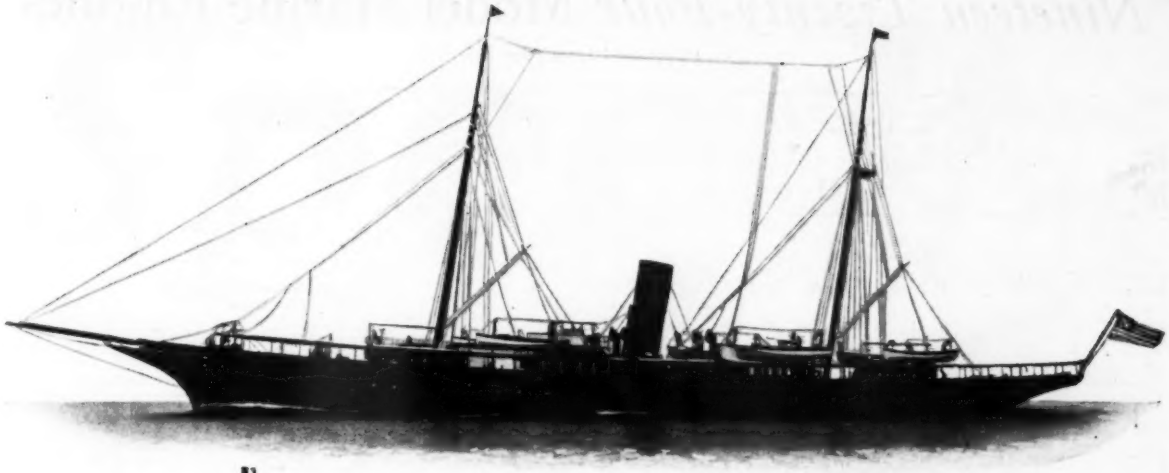
This procedure is impossible on a small boat, and I for one will not trust the supposedly fool-proof method of holding a stop watch in one hand and starting it as I get my altitude. It takes anywhere from ten seconds to half a minute to scramble below for a comparison with the chronometer, and if you are lucky enough not to stop the watch in your divagating descent to the cabin, you can't be sure in one sight that you have obtained a good altitude.

The best method of taking the time of sights is to give a reliable hack to a trusted shipmate, making sure first that the minute and second hands tell the same story, and then snap off four or five sights at regular intervals of time. DON'T ADD THEM UP AND TAKE THE AVERAGE! Compare them carefully and be sure that the observed body's altitude has varied consistently with the intervals of time. When the change is found to be consistent, select the angle that seemed most accurate at the time of taking the string of sights, and work for that. If the result is found to be miles away from your D. R. position, work another sight of the same string, entirely independently of the first. It that checks, your navigation is probably good. If it doesn't, take a new set of observations and try again.

In the matter of dead reckoning, I am probably as poorly qualified to give advice as any landlubber, since my own method is to select a likely looking spot on the chart before working a sight, jab the dividers into it, and call that my "D. R. position." I have a general idea of the courses sailed since the last fix, and of leeway and probable current, but I have never been a hand to lay each course out with mathematical exactness, figure leeway to a nicety, or compute the error in the patent log.

But there is one detail of navigating by dead reckoning that I mean to get after in future sailing—and that is the personal equation of the helmsman. One way or another the amateur navigator feels uncertain of his position among his fellow men during a run of long duration. His shipmates accept his word in default of any other that he is where he says he is, but they are all waiting for the landfall to show whether he is right or wrong. Feeling his probational position, the navigator doesn't like to presume by glancing over the shoulder of the helmsman to see what he is steering. It seems like eavesdropping, to say the least of it, while an implied accusation accompanies the most casual glance into the binnacle. Nevertheless, in racing

(*Continued on page* 102)



FROM COAL TO TODD OIL BURNERS

The S. Y. "Corsair," owned by J.P.Morgan, Esq., is now at the Tebo Yacht Basin plant of the Todd Shipyards Corporation at Brooklyn, N. Y., undergoing conversion from coal to oil burning by the installation of Todd Oil Burners.

The vast experience of this organization in having converted over 2000 vessels from coal to oil burning makes Todd Service stand preeminent.

TODD SHIPYARDS CORPORATION
PLANT OF TEBO YACHT BASIN CO.
BROOKLYN, N. Y., U. S. A.

PLANTS

Robins Dry Dock & Repair Co.
Erie Basin, Brooklyn, N. Y.

Tietjen & Lang Dry Dock Co.
Hoboken, N. J.

Tebo Yacht Basin Co.
Foot of 23rd St., Brooklyn, N. Y.

Clinton Dry Docks, Inc.
Foot of Clinton St.
Brooklyn, N. Y.

White Fuel Oil Engineering Corporation
Todd Oil Burning Systems
742 East 12th St., New York

Todd Dry Dock & Construction Corp.
Tacoma, Wash.

Todd Shipbuilding & Dry Dock Co., Inc.
Mobile, Ala.

Todd Dry Docks, Inc.
Harbor Island, 16th Avenue, S.W.
Seattle, Wash.

Todd Oil Burners, Ltd.
London, England

TODD
NEW YORK, U.S.A.

TWO GRAVING DOCKS

TWENTY-ONE FLOATING DOCKS

TWELVE SHIPWAYS

Nineteen Twenty-Four Model Marine Engines

(*Continued from page* 39)

Gar Wood, Inc., Detroit Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
300	6 3x7 09	6	4	1500	...
450	5x7	12	4	1800	1300

Gray Motor Corp., Detroit, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
3	3 1/16x3 1/16	1	2	900	129
5 1/2	4 1/4x4 1/4	1	2	900	185
6	3 1/16x3 1/2	2	2	900	240
25	3 1/4x5	4	4	1200	550
35	4 x6	4	4	1200	850

Hall-Scott Motor Car Co., Inc., Buffalo, N. Y. Factory, Berkeley, Calif.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
125	5x7	4	4	1700	1100
200	5x7	6	4	1700	1300

International Mfg. Co., Detroit, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M	Weight
16	3 1/4x4	4	4	1200	475

Kermath Manufacturing Co., Detroit, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
3	3 1/4x4	1	4	800	175
5	3 1/4x4	2	4	800	300
8	3 1/4x4	2	4	800	325
12	3 1/4x4	4	4	1000	470
16	3 1/4x4	4	4	1000	500
20	4 x4	4	4	1000	535
35	4 3/4x5 1/2	4	4	1200	950
50	4 3/4x5 1/2	4	4	1800	690

Lockwood-Ash Motor Co., Jackson, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
2 1/4	3 1/16x3 1/2	1	2	800	110
4	4 x4	1	2	750	165
6	3 1/16x3 1/2	2	2	800	165
8	4 x4	2	2	750	210
5	3 1/4x4	1	4	750	165

Miller Motors Corp., Chicago, Ill.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
4	4 1/16x5	1	4	600	400
6	5 1/4x6	1	4	500	500
10	4 1/16x6	2	4	600	600
14	5 1/4x6 1/2	2	4	500	800
20	3 1/16x5	2	4	900	650
24	4 1/16x6	4	4	800	1200
30	5 1/4x6	4	4	700	1500
35	5 1/4x7 1/2	4	4	550	1900
50	6 x9	4	4	450	2700

New Jersey Motors, Inc., Keyport, N. J.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
15	3 1/4x4	4	4	900	450
20	3 1/4x4	4	4	1500	560

The New London Ship & Engine Co., Groton, Conn. Diesel Engines

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
120	9 x12 1/2	4	4	350	17800
180	9 x12 1/2	6	4	350	23000
240	9 x12 1/2	8	4	350	30700
240	13 x18	4	4	240	49800
360	13 x18	6	4	240	64000
480	13 x18	8	4	240	84300
600	16 1/2x24	6	4	205	120000

New York Yacht, Launch & Engine Co., Morris Heights, N. Y.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
20	6 1/2x8 1/2	2	4	400	2000
50	6 1/2x8 1/2	4	4	500	3400
75	6 1/2x8 1/2	6	4	500	4500

Niagara Motors Corp., Dunkirk, N. Y.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
15	2 5/8x4	4	4	1000	325
12	4 1/2x5 1/2	2	4	800	625
35	4 1/2x5 1/2	4	4	1000	995
80	6 1/4x7	4	4	1000	1650
120	6 1/4x7	6	4	1000	2350
160	6 1/4x7	8	4	1000	3250

Packard Motor Car Co., Detroit, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
45	3 3/4x5	6	4	1800	650
200	5 x5 1/4	6	4	2000	900
400	5 x5 1/4	12	4	2000	1150

Palmer Brothers Engines, Inc., Cos Cob, Conn.

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
YT	2	3 x3 1/4	1	4	1000	98
NL-1	3 1/2	4 1/2x4 1/2	1	4	600	350
NL-2	7	4 1/2x4 1/2	2	4	600	350
RW-1	6 1/2	5 3/8x6	1	4	600	425
RW-2	14	5 3/8x6	2	4	600	1050
RW-4	28	5 3/8x6	4	4	600	1675
NR-1	6	5 x6	1	4	600	400
NR-2	12	5 x6	2	4	600	750
NR-3	18	5 x6	3	4	600	1000
NR-4	24	5 x6	4	4	600	1250
F-2	18	6 3/4x8	2	4	400	1600
F-3	26	6 3/4x8	3	4	400	2000
F-4	35	6 3/4x8	4	4	400	2400
F-6	60	6 3/4x8	6	4	400	3800
NK-2	25	7 1/2x10	2	4	400	3000
NK-3	35	7 1/2x10	3	4	300	3500
NK-4	50	7 1/2x10	4	4	400	4200
NK-6	80	7 1/2x10	6	4	400	5600
C	4	4 1/2x4 1/2	1	2	450	240
D	6	5 x6	1	2	450	350
Q-1	2 1/2	3 1/8x3 1/2	1	2	700	125
Q-2	5	3 1/8x3 1/2	2	2	700	180
P-1	4	4 1/2x4 1/2	1	2	650	210
VH	14	3 x4 1/2	4	2	1200	700

The Peerless Marine Motor Corp., Buffalo, N. Y.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
6	5 x6	1	4	600	450
12	5 x6	2	4	600	600
20	4 x6	4	4	1000	750
35	5 x6	4	4	1000	850
24	5 1/4x7	2	4	650	1200
50	5 1/4x7	4	4	650	1700
125	5 x7	4	4	1650	800
200	5 x7	6	4	1650	...
200	5 x5 1/4	6	4	2250	...

Regal Gasoline Engine Co., Coldwater, Mich.

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
Y	2	3 1/16x3 1/16	1	4	800	130
FA	4	4 x4 1/2	1	4	800	290
UA	5	4 1/16x5 1/2	1	4	600	385
EA	7	5 1/4x6 1/2	1	4	550	745
JA	9	6 1/2x7	1	4	500	1265
FB	8	4 x4 1/2	2	4	800	540
UB	10	4 1/16x5 1/2	2	4	600	730
EB	14	5 1/4x6 1/2	2	4	550	1040
JB	18	6 1/2x7	2	4	500	1680
FC	16	4 x4 1/2	4	4	800	700
UC	20	4 x4 1/2	4	4	700	1035

Red Wing Motor Co., Red Wing, Minn.

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
K	5	3 1/16x4 3/4	1	4	600	...
KK	8	3 1/4x4 3/4	2	4	600	...
D	14	2 3/4x4	4	4	1000	264
A	20	3 1/2x4 1/2	4	4	800	520
AA	24	3 1/2x4 3/4	4	4	800	530
F	36	4 1/16x5	4	4	1000	650
B	40	4 1/2x5	4	4	1000	670
JD	27	6 1/2x7	3	4	500	2500
EC	30	5 1/4x6 1/2	4	4	600	1600
CB	32	4 1/2x5 1/2	4	4	1000	910
JC	36	6 1/2x7	4	4	500	2800
SC	50	7 1/2x9	4	4	450	4600
SH	100	7 1/2x9	8	4	400	8500

Roberts Motors, Sandusky, Ohio

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
8	3 3/4x4	2	4	1000	185
16	3 3/4x4	4	4	1000	320

(*Continued on page* 98)

Speed!

Let Official Records Talk for the ELTO!

NOT the records of obscure, unofficial races, but those of the big important national and international events, the winning of which is the aim of every outboard motor manufacturer in the world — the official records of which are indisputable, conclusive, unquestionable! For instance —

The Big International Race of the British Motor Boat Club

No outboard motor barred on weight or horsepower! A regular come-one-come-all open race—and every worthwhile outboard motor in the world was there on the Thames to win. ONE ELTO was there. It *won first place.* It also won the time prize for fastest coverage of the course — and that remember, against prominent American and European motors of all weights and horsepower!

Repeats on the Pacific Coast!

The big Pacific Coast International regatta! Three miles against heavy headwind, in open rolling sea! Heavier and more powerful motors in the Race—and ***again the ELTO wins First Place*** in the remarkable time of 17 minutes, 40 seconds. ***And Another ELTO Wins Second Place!***

Here is official international proof that the Elto is the fastest outboard motor in the world, as has been demonstrated numerable times in races everywhere.

It is the *lightest* motor per H. P. — the most powerful per pound of weight — gives you a full extra horsepower over other light weight motors. It is the only "twin" designed by Ole Evinrude.

Strength!

Do this with the Elto! No possibility of drive shaft distortion because of Ole Evinrude's full floating type of construction which takes all blows on the frame and which, with safety-tilting, makes shaft dis-alignment impossible. This with the fact that the ELTO has double the bearing area of any other lightweight motor, makes the ELTO the strongest, longest-service outboard motor ever built.

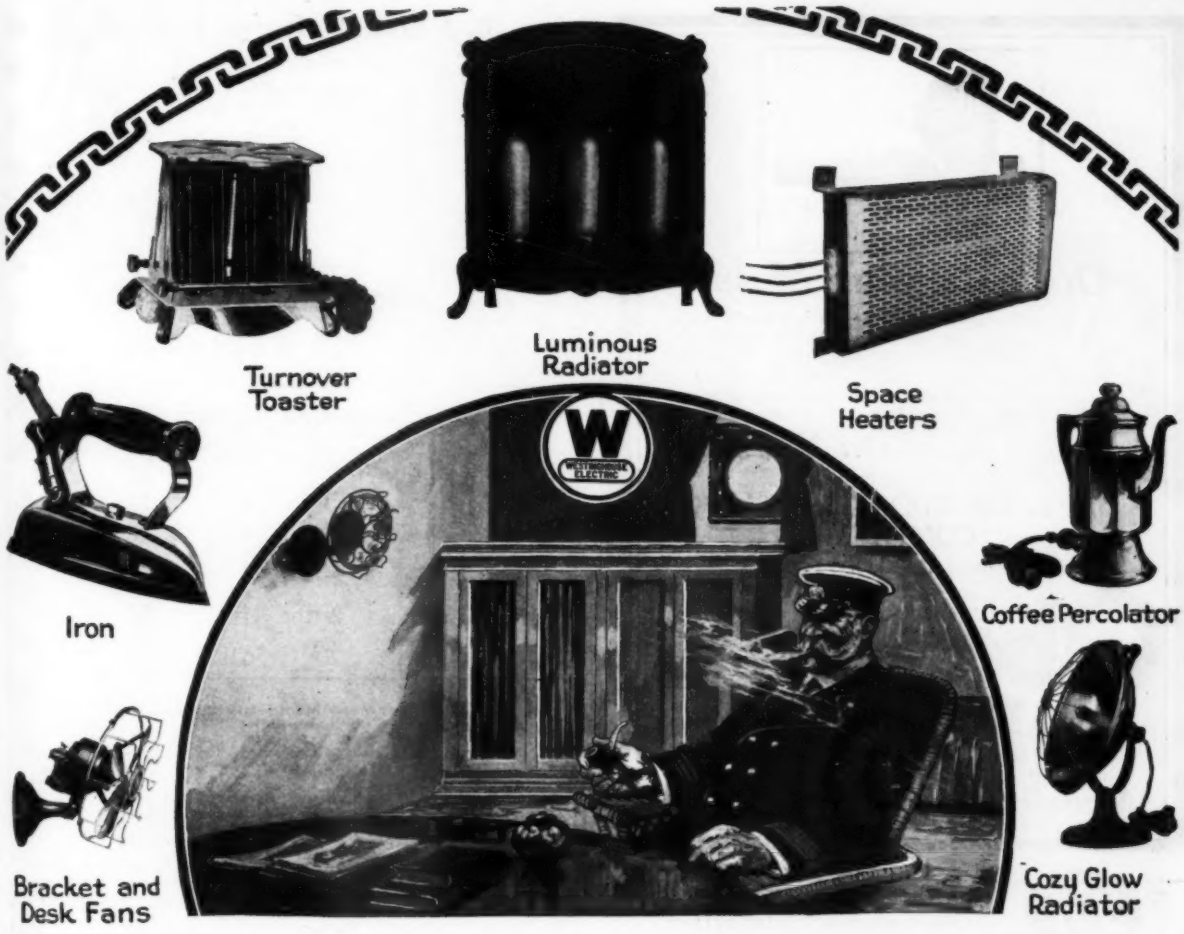
The Exclusive Elto Agency will be an increasingly valuable asset year after year. The Elto retail proposition is specially attractive. Let us send it to you along with the Elto catalog. Exclusive territory.

ELTO OUTBOARD MOTOR COMPANY,
Dept. F., Manufacturer's Home Bldg. Milwaukee, Wis.

3 H.P. Fast Light Twin

"As light as right"

Advertising Index will be found on page 126



Home Comforts Aboard Ship

IT IS only necessary to compare the ship of today with the ship of yesterday to see the big advance that has been made in the matter of electrical conveniences on shipboard.

Electrical appliances that formerly were found only in the home, have now come into common use not only on privately owned yachts and first class passenger ships, but also on ships of all classes.

The ship today, like the home of today, is wired to permit of the use of the many electrical appliances that add to the comfort of the voyage.

Westinghouse Appliance Specialists will be glad to cooperate with shipbuilders and architects.

Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.

Sales Offices in All Principal American Cities
Special Pacific Coast Representatives
Hunt, Mirk & Company, San Francisco

Westinghouse

1924 Model Marine Engines

(Continued from page 94)

Scripps Motor Co., Detroit, Mich.

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
D-2	12	4¼x6	2	4	600	525
D-2	18	4¼x6	2	4	1000	525
F-4	30	3¾x5	4	4	1200	550
F-4	55	3¾x5	4	4	1800	550
E-4	45	4½x6	4	4	1000	975
E-4	70	4½x6	4	4	1600	975
E-6	60	4½x6	6	4	1000	1290
E-6	100	4½x6	6	4	1600	1290

Sperry Compound Diesel Newport News Shipbuilding & Drydock Co., Newport News, Va.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
20 to 200	.....	3 compound	2 and 4	....	1,000 to 10,000

Standard Motor Construction Co., Jersey City, N. J.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
12	5 x6½	2	4	450	850
18	6 x8	2	4	400	1200
24	5 x6½	4	4	450	1600
27	6 x8	3	4	400	3200
37	6 x8	4	4	400	2800
54	6 x8	6	4	400	3200
60	6½x8	4	4	600	3300
75	8 x10	4	4	400	5300
90	6½x8	6	4	600	4200
100	8 x10	6	4	400	8000
150	8½x11	6	4	400	5800
220	10 x11	6	4	...	6300
300	12 x14	6	4	...	9500
500	12½x13	6	4	...	18000

Stearns Motor Manufacturing Co., Ludington, Mich.

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
MGU	40	4¼x6	4	4	1100	1000
MHU	50	4¼x6	4	4	1100	1000
MHR	60	4½x6	4	4	1600	950
MAU	50	4¾x6½	4	4	1000	1600
MDU	70	5⅛x6½	4	4	1050	1600
MDR	100	5⅛x6½	4	4	1600	1300
MEU	90	5⅛x6½	4	4	1100	1600
MER	150	5⅛x6½	4	4	1850	1300

Sterling Engine Co., Buffalo, N. Y.

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
Neptune	15	5½x7	2	4	500	1150
Dolphin	57	5¾x6¾	4	4	1650	1650
Dolphn	235	5¾x6¾	6	4	1650	2050
Dolphin	300	5¾x6¾	8	4	1650	3350
Dolphin MS	110	5¾x6¾	4	4	1200	1750
Dolphin MS	165	5¾x6¾	6	4	1200	2400
Dolphin MS	220	5¾x6¾	8	4	1200	3350
Trident	63	5¾x6¾	4	4	800	2190
Trident	94	5¾x6¾	6	4	800	2700
Trident	126	5¾x6¾	8	4	800	3150
Dolphin Special	190	5¾x6¾	4	4	1950	1650
Dolphin Special	290	5¾x6¾	6	4	1950	1950
Seagull	150	4 11/16x6	6	4	1800	1500
Vicking	300	7 x8½	6	4	1200	4800

Universal Motor Co., Oshkosh, Wis.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
12	2⅝x4	4	4	1500	325

Universal Products Co., Oshkosh, Wis.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
4	3⅛x4½	1	4	600	225
7	4¾x6	1	4	600	575
15	4¾x6	2	4	800	750
18	3⅛x4½	4	4	1200	395
40	4¾x6	4	4	900	1200
50	6 x7	4	4	800	1950

Joseph Van Blerck Engine Corp., Plainfield, N. J.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
28	5½x6	2	4	800	1000
72	5½x6	4	4	1200	1500
106	5½x6	6	4	1200	1890
142	5½x6	8	4	1200	2267
94	5½x6	4	4	1500	1497
140	5½x6	6	4	1500	1890
187	5½x6	8	4	1500	2287

(Continued on page 124)

Advertising Index will be found on page 126

The Sun never Sets on Spinaway Happiness

Thousands of sunny, happy hours are yours with a Spinaway. Never a worry nor a trouble clouds your fun on the water—not with a Spinaway!

Here's a real pal, who offers you his best—always; with a simplicity that even enhances his sturdy build, staunch staying qualities, and day-long dependability. No extra pieces, no fancy fittings—just a plain, clean-cut little fellow who takes to water like a duck, works like a Trojan, smiles at "gaff," and then—asks for more.

Here's happy days!—with either the Sturdy Single or Superb Twin.

Spinaway
Detachable Outboard Motors

And you might just as well have outboard motoring at its best.

Meet these "Pals of Play." Go to the Spinaway dealer in your town—he'll gladly put either a Sturdy Single or Superb Twin through its paces for you.

If you don't know your Spinaway dealer, write us and we'll gladly tell you his name—and send you a handsome catalog. Free, of course.

DEALERS: Write today for exclusive Spinaway Dealership

SPINAWAY BOAT MOTOR CO.

100 So. Chicago Ave., Freeport, Ill.

California Branch
A. G. Hebgen, Mgr., 440 Market St., San Francisco
Canadian Distributor
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WHY PAY MORE?—*You can't buy more!*

Sturdy Single	
Battery	$75
Magneto	85
Superb Twin	
Battery	$115
Magneto	125

PROMPT DELIVERIES
If your dealer can't supply you at once, write direct to factory. **NO DELAY.**

"Spinaway happy hours with a Spinaway"

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Books of Plans of Cruisers, Runabouts, Auxiliaries, and Dinghies

THE BEST HOW TO BUILD SERIES EVER PUBLISHED

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Designs of Ideal Motor Boats and How to Design a Motor Boat

This volume describes in detail how to design a motor boat. It also contains complete plans of 30 Cruisers, Runabouts and Auxiliaries. The plans include lines, table of offsets, interior plans, profiles, construction details, etc. There is no book published at the present time which describes in every day language the details of designing a boat according to your own tastes. The plans of Ideal Cruisers, Runabouts and Auxiliaries are complete in every particular. They include the best of the plans published in MoToR BoatinG during the past several years. The plans include boats of from 20 feet in length up to 40 feet. The drawings are all to scale and large size.

Foreign Postage, 50 cents extra. **$2.00**

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How to Build Sixteen Ideal Motor Boats

This book gives complete information for building the following boats:
10 foot mark boat, 12-foot outboard motor boat, 12-foot speed boat, 12-foot bangabout, 13-foot sea skiff, 16-foot sharpie, 18-foot runabout, 20-foot monoplane, 20-foot hydro-runabout, 20-foot knockabout, 20-foot tunnel stern, 22-foot V-bottom runabout, 25-foot V-bottom cruiser, 25-foot round-bottom cruiser, 28-foot cruiser (Consort II.)

Every article is fully illustrated with working drawings and no information or instructions are missing which would be of assistance to the novice to build his own boat.

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Plans and specifications of the following boats are included: Edith, a 15-foot runabout; Jane, an 18-foot runabout; Katherine, 30-foot cruiser; Dorothy, a 25-foot runabout; Zenith, a 25-foot cruiser; Cyclone, a 36-foot auxiliary; Eclipse, a 40-foot express cruiser; Magnet, a 28-foot cruiser; Tornado, a 45-foot auxiliary schooner; Broncho, a 29-foot cruising runabout; Shark, a 21-foot utility runabout; Claire, a 36-foot express cruiser.

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By William J. Deed and others

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Read the contents: Chum, a 16-foot Motor and Sail Craft; a 9-foot Easy-to-Build Dinghy; Nomad, a 34-foot Cruiser; a 9-foot Sharpie; Porpoise, a 20-foot Auxiliary Cat Boat; Kingfisher, a 14-foot Fishing Skiff; Shrimp, a 25-foot Hampton Boat; Flattie, a 16-foot Utility Boat; Dolphin, a 34-foot Tunnel Stern Cruiser; a 9-foot Dory; an 8-foot V-Bottom Tender; Penguin, a 25-foot Auxiliary Sloop; Sea Gull, a 41-foot Auxiliary Schooner; Whale, a 20-foot Cruiser that's a Real Cruiser; Tarpon, a 29-foot Raised Deck Cruiser; Alligator, a 28-foot Tunnel Stern Cruiser, a boat that will run in water little deeper than a heavy dew, and Mud Turtle, a 36-foot Stern Wheel Motor Boat. Rookie, a 20-foot Auxiliary Sloop; Nautilus a 40-foot Tunnel Stern House Boat; Victory II, the Cruising Champion. Complete Bills of Material for Building.

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By Charles F. Chapman

This book has been published in response to repeated requests for us to bring out in complete book form the wonderful illustrated course in Piloting, Seamanship, and Small Boat Handling which has been appearing regularly in the issues of MoToR BoatinG since February, 1921.

Profusely illustrated with nearly 300 Cuts and Diagrams.

MoToR BoatinG's Correspondence Course proved to be the most successful and most popular feature ever undertaken by a boating magazine. Thousands of readers became better boatmen by studying this course. Now you will want it in permanent book form to keep aboard your boat for reference and guidance.

This course was prepared with an entirely new idea in text book or correspondence instruction. Instead of page after page of dry text matter with only occasional illustrations, it is composed mainly of pictures, drawings, photographs, charts and diagrams covering every situation and every point, with the purpose of each picture clearly explained by a concise and simple title.

You will find this book more enjoyable and easier to understand than any text book you ever read. You will find it correct and authoritative because it has been prepared by experts with years of boating experience and every necessary reference at hand.

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Foreign Postage, $1.00 extra.
Note:—Volume V is not sold in combinations with the other books of Ideal Series.

MoToR BoatinG, 119 W. 40th St., New York, N. Y.

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Navigation in Ocean Racing

(*Continued from page* 92)

against time or against other boats, it is highly important for the navigator to know the steering error of every helmsman—whether he yaws more often to windward or to leeward, or whether he averages his course. The personal factor known, the helmsman can be warned of his harmful tendencies, or the course may be set to allow for incurable shortcomings.

Fred Fenger, author of "Alone in the Caribbean," and navigator of Mary Ann, has these pungent words to say regarding general navigation: "The whole trick is to get good sights—and good sights are only acquired through practice. So I say to shoot the sun whenever you have a chance and salt away your observations even though you may not need them. But shoot away just as though you were going to work up a sight. And go slow while you are figuring. And don't let the other fellow bother you. And stick to your guns."

Good dope as this is it is bettered in interest by Fenger's specific remarks about the navigating conditions: "As our Gulf Stream positions were rather in doubt I should hesitate to make any estimate regarding the strength of the current. My feeling at the time was that there was practically no Stream effect. This is further borne out by the fact that our track on the track chart follows fairly closely the direct course which we were sailing, and it was only when our first westerly struck in from south'ard that we were forced out to our position of June 15. So it was wind and not current that put us out there. I say this in case you plot our course by noon to noon positions—which obviously would give a misconception as to what we were doing. Also we found little current effect on the other side of the stream. As the wind veered to west'ard we followed it in order to make sure of a weather gage on the island. So there again, our weatherly position on June 17, just as we made our landfall, was due to intent and not to current. It will be interesting to read what the other fellows have to say in regard to this."

Unfortunately, the other fellows did not go as satisfactorily into detail as Fenger does. But their silence with respect to the question in my data sheet, "How Many Hours Hove To?" is eloquent. Not one vessel of those on which I have first-hand information was hove to at any time during the race. All hands were driving, with a spirit of the devil take the hindmost. All, no doubt, shortened down at times, but all kept at least a rag flying to drive them toward their goal.

Somewhat more illuminating are the answers to the question, "How Many Hours Becalmed?" Says Griswold Denison, of Caroline: "This is rather a difficult question to answer. During periods totaling 31½ hours we believe we made no gain whatever. During one of my tricks at the wheel on the 16th, we swung ship four times entirely around the compass and had no steerage way at all. These periods are taken from my personal diary and there remain four and a half hours of becalmed periods which I cannot allocate. Commodore Trimmingham and I computed the total hours which we were becalmed, and we check up a total of 36, which seems almost unbelievable, compared with the periods mentioned by some of our competitors."

The periods mentioned by Caroline's competitors are for the most part nil. Sunbeam trailed her logline straight up and down for two hours, and Flying Cloud for three and a half. Black Hawk was not becalmed at any time after leaving Montauk.

I mention these four yachts—Caroline, Sunbeam, Black Hawk, and Flying Cloud—because I believe there is much of interest in their relative position at noon of June 13 and June 14.

First let me say that we have heard a great deal of chatter about what the race proved. If we accept every published opinion we find that the race proved the superiority of the fisherman type of boat over the yacht type—and vice versa: that it demonstrated conclusively that the small boat can make better weather of it than the large one—and again vice versa. Nearly every conceivable contention has been proved and disproved, but I have yet to read that the boats which got the wind when and where they wanted it are the ones that won.

Granting the correctness of Caroline's noon position on June 13 we find from the chart accompanying the opening pages of this article that she was then tied with Memory for first place. She had had plenty of wind and she had used it to advantage. At this time she led Sunbeam, Black Hawk, and Flying Cloud by more than thirty miles.

By the noon following she is behind the three, stuck in a soft spot while the others sail on. Black Hawk is only fourteen miles away from Caroline, but she is getting wind while Caroline gets nothing. The four boats are all within a radius of seventeen miles.

Does this prove that a large schooner of the yacht type like Caroline is inferior to a small fisherman like Black Hawk? No, because when Caroline finally got the breeze she overcame her

(*Continued on page* 120)

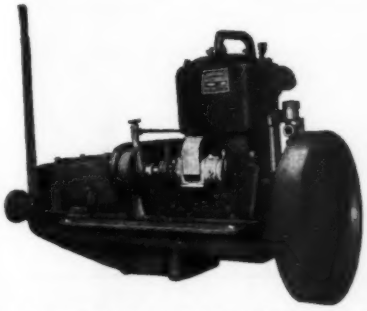
SWEET MARIE—powered with a four-cylinder Red Wing "THOROBRED." She was a winner in the small boat class at the annual regatta of the Inter-Lake Yachting Association at Put-in-Bay, 1922.

Seven "Thorobred" Sizes From 4 H.P. to 40 H.P.

BOATING SATISFACTION

depends more upon the motor than any other factor. A poor engine will ruin any trip. The models F 28-36 H. P. and the B 32-40 H. P. "THOROBRED" (shown in circle) are engines that give real boating satisfaction under all conditions. Long trips on the open sea test the mettle of any motor. Hundreds of "THOROBRED" powered cruisers are daily plying the Atlantic Coast. They are always ready to go, and they make port on scheduled time. Positive pressure feed oiling system on the F and B provides a system of lubrication that is unbeatable.

DEPENDABLE PERFORMANCE WITH A RED WING "THOROBRED"



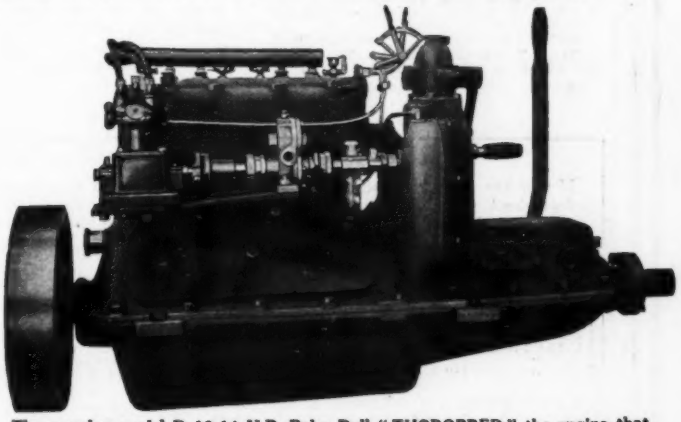
The new model KK 7-8 H.P. double cylinder "THOROBRED" with Bosch ignition and reverse gear running in oil bath.

Whether in a trim and handy cruiser, the fast runabout or the every day work boat, the consistent and dependable performance of a Red Wing "THOROBRED" motor makes friends wherever it is seen. These engines not only have lots of power, but also that rugged endurance necessary to withstand the severest of marine usage. Add to this their extremely quiet and smooth running qualities, and the absolute reliability of these power plants, and you have the secret of "THOROBRED" popularity.

FOR FISHING BOATS

A desirable motor for the fishing launch or work boat. The model KK is strong and substantially built, absolutely reliable and economical to operate. Just what you have been looking for. This motor is built to stand up under the severest of marine work. Furnished with or without unit power plant.

We also build single cylinder four cycle model K 4-5 H. P. motor.



The popular model D 10-14 H.P. Baby Doll "THOROBRED," the engine that runs like an electric motor. Weight, aluminum type, only 264 lbs.

Catalogue on Request

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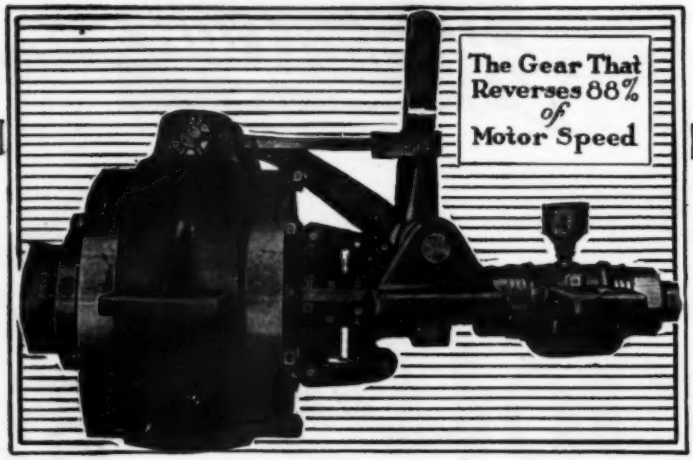
Eastern Distributors: Verrier, Eddy Co., 223 E. 42nd St., New York, N. Y.; W. H. Moréton Corp., 789 Commonwealth Ave., Boston, Mass.; W. E. Gochenaur Mfg. Co., 631 Arch St., Philadelphia, Pa.; Hutchinson Bros., Alexandria Bay, N. Y.

Western Distributors: Pacific Net & Twine Co., 1213 Western Ave., Seattle, Wash.; Emil Aarup, 5110 S. Main St., Los Angeles, Cal.

Canadian Distributors: Ditchburn Boats, Ltd., Gravenhurst, Muskoka, Ont.; Semmelhaack-Dickson Co., 333 St. James St., Montreal, Que.

Advertising Index will be found on page 126



GRAY MOTOR CORPORATION

"Puts It Up to Old Man Joe"

Writes Mr. H. N. Link, Manager, Marine Sales:

We started using your reverse gears on our 20 to 25 H.P. motors back in 1915, and their most satisfactory service has warranted us in continuing their use.

The manner in which you have handled our business is also greatly appreciated.

Yours very truly,
GRAY MOTOR CORPORATION
(Signed) H. N. LINK, Manager Marine Sales

so do

Packard
Fay & Bowen
Mianus
Wright
Stearns
and many others

More leading engine builders use Joes Gears as standard equipment than any other make.

This is the Eighth of a Series. Watch next month for the reason why Evansville Gas Engine Works

—put it up to old man Joe

The Snow & Petrelli Mfg. Co., 154 Brewery St., New Haven, Conn.

Distributors and Service Stations That Carry Joes Gears and Parts in Stock and Will Gladly Give You Free Service

New York—Sutter Bros., 44 Third Ave., Service Station foot of E. 92nd St., Brooklyn.
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Philadelphia, Pa.—W. E. Gochenaur Mfg. Co., 631 Arch St.
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Cleveland, Ohio—Wm. F. Meier, 1432 W. 77th St.
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Chicago, Ill.—W. L. Masters & Co., 229 North State St.
New Orleans, La.—Arthur Durio's Sons, 130 Chartres St.
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JOES FAMOUS REVERSE GEARS

REVERSE 80%-88% of MOTOR SPEED

Advertising Index will be found on page 126

1923 Gray Motors Await You

Neat, compact, every moving part enclosed, you'll find the 1923 Gray as handsome and as efficient as any motor of its size ever built, regardless of price

Your boat and your pleasure is deserving of a better motor, one on which you can place the utmost dependence.

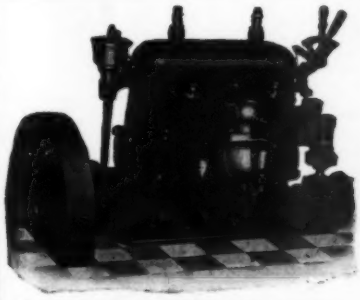
You not only get dependable service, but you get in a Gray, a smooth, quiet, clean, operating motor that tends to give you that pleasant feeling of relaxation, you seek.

In small cruisers up to 35 feet—Runabouts 20 to 30 feet and work boats the Gray 4 cylinder valve-in-head has given their owners better Economy and more speed than any other type of the same bore and stroke.

We don't ask you to rely entirely upon our statement but will gladly put you in touch with these owners.

What Engine of equal cylinder displacement do you know of that will turn a 14" dia. x 20" Pitch Hyde type Wheel constantly 1650 revolutions, or a 20" dia. Hyde Wheel, 900 revolutions.

Note the rigid one-piece base with Reverse Gear enclosed. The gear is automatically lubricated with positive gear pump that lubricates all other internal working parts of the engine—no grease cups or thick transmission oil used.



One of our most popular selling engines is the 2 cylinder 6 to 8 H. P. A most powerful and durable one, occupying less space for the power developed than any other, that we know of.
Its *easy* starting, and *dependable* operation coupled with its wonderful economy, recommends it to those who are considering a motor for a pleasure boat 16 ft. to 24 ft. or for a fish or work boat up to 20 ft. requiring 6 to 8 H. P. For auxiliary power in sailing boats up to 35 ft. this little engine is a great favorite.

Oil filler is conveniently located on *top of the engine* with duct leading to Crank Case. Rocker arm shaft is hollow and automatically supplies oil to Rocker Arms. Oil is forced under pressure to the three main bearings, and to the connecting rod troughs.

In brief, the Gray Oiling System leaves nothing to chance. It is unfailing at all engine speeds, and all oil is kept inside the engine, and not thrown around the boat or on its occupants.

Due to the special design of the Cam Shaft, push rods and rocker arms, scarcely a sound can be heard with the ear close to the engine.

The smooth, quiet operation of the new Gray improved Valve-in-Head at all speeds from 200 to 2000 would compare favorably to an electric motor. It runs most economically on low grade gasoline and satisfactorily on kerosene.

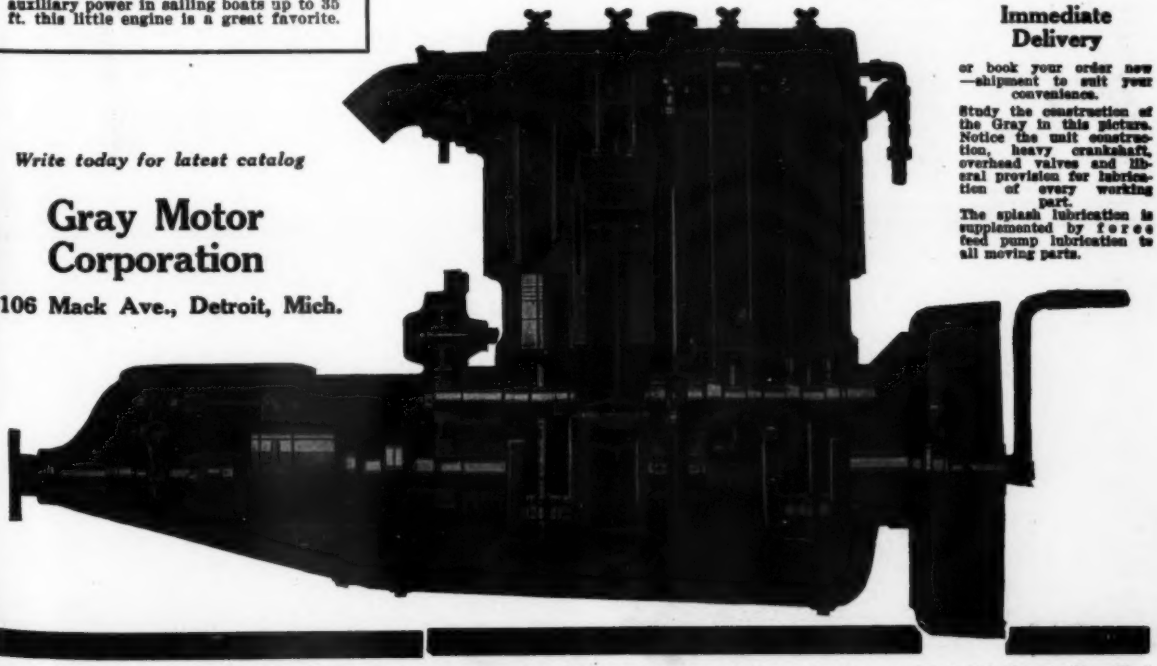
Note The Big Crankshaft

The diameter of the main bearings are: Front 2⅛". Center 2 1/16". Rear 2". The lengths are 3⅝", 2½", 2½" respectively. Crankshaft is 40-50 point carbon steel forging, heat treated and ground.

Special attention is given to the balancing. The shaft is put in rotative as well as static balance on an Akinoff Dynamic Balance Machine, reducing vibration to a minimum.

Bosch Magneto with Impulse Starter, or Bosch two unit Starter and Generator is used.

Gray Two-Cycle Motors are built in models from 3 to 8 h.p.



Immediate Delivery

or book your order now—shipment to suit your convenience.

Study the construction of the Gray in this picture. Notice the unit construction, heavy crankshaft, overhead valves and liberal provision for lubrication of every working part.

The splash lubrication is supplemented by force feed pump lubrication to all moving parts.

Write today for latest catalog

Gray Motor Corporation

2106 Mack Ave., Detroit, Mich.

Nueva Wins Cruiser Championship

Summary of Engine Revolution Statements

As Turned in by Official Observers

For complete story of this race, see pages 24, 25, 26, 45, and 112

Observation at	Nueva	Spendthrift	Diana	Salome	Lady Jane	Intrepid	Mascot	Pickaninny	Helma	Halcyon	Diana	Querida	Martha M II	Eugenia	Jeanne II	Mowgli
9:30	651	687	1025	506	544	386	510	690	630	848	414	789	692	658	641	811
9:50	684	698	1028	507	541	524	560	695	630	886	624	789	697	658	500	624
10:10	688	690	1025	507	542	524	545	700	633	879	670	769	705	655	487	714
10:30	688	693	1030	505	542	524	550	705	634	875	678	791	714	652	520	714
10:50	689	693	1025	506	542	525	555	695	633	874	664	794	716	652	544	704
11:10	687	698	1030	508	541	526	550	700	635	873	688	790	717	652	541	697
11:30	680	693	1025	507	540	524	550	725	630	866	678	780	720	652	538	693
11:50	691	693	1028	508	523	520	552	710	634	880	690	788	736	652	547	686
12:10	680	690	1025	508	493	523	551	700	630	883	704	795	725	652	550	677
12:30	685	690	1025	508	549	520	553	680	633	870	686	790	725	652	546	674
12:50	687	694	1024	507	544	523	548	715	634	857	692	802	729	...	558	Did
1:10	675	695	1035	508	548	526	552	720	635	884	692	790	730	...	557	Not
1:30	685	694	1040	508	546	527	550	720	634	881	692	790	728	593	558	Finish
1:50	682	696	1040	507	545	526	549	720	633	882	696	791	728	590	557	
2:10	680	694	1040	508	542	526	548	720	635	870	688	786	729	600	558	
2:30	685	695	1040	508	548	526	549	700	636	879	702	792	732	612	554	
2:50	682	695	1040	507	543	526	551	710	636	873	698	788	730	612	551	
3:10	683	697	1040	508	545	526	552	715	636	878	678	796	732	612	554	
3:30	683	697	1040	510	544	530	550	715	636	867	686	790	733	619	552	
3:50	675	695	1040	509	543	530	551	726	635	874	692	782	705	619	554	
4:10	681	696	1040	510	545	532	550	715	636	843	700	801	705	619	555	
4:30	672	697	1040	510	540	532	549	710	636	855	696	803	705	622	555	
4:50	...	696	....	510	543	530	548	710	636	856	688	797	707	...	553	
5:10	...	694	....	510	543	531	547	705	636	847	684	806	705	...	558	
5:30	...	696	....	512	534	531	549	700	636	849	682	806	705	596	562	
5:50	...	...	....	512	544	532	550	....	636	....	676	806	...	592	554	
6:10	...	...	....	512	534	532	549	....	....	....	684	....	....	....	556	
6:30	...	...	....	512	...	532	551	....	....	....	700	....	....	....	561	
6:50	...	...	....	512	...	532	...	....	....	....	688	....	....	....	557	
7:10	...	...	....	512	...	533	...	....	....	....	....	....	....	....	561	
7:30	...	...	....	...	...	532	...	....	....	....	....	....	....	....	570	
7:50	...	...	....	...	...	534	...	....	....	....	....	....	....	....	579	
8:10	...	...	....	...	...	533	...	....	....	....	....	....	....	....	572	
Observer	.....	G. Millholland	E. Collins	R. A. Hurst	W. H. Young	A. M. Quinn	E. H. Walberg	S. Wetherill	G. T. Kelley	F. R. Still	W. K. Brown	P. Crank	W. McGuire	N. Averell	J. H. Millholland	R. McGinnis

Summary of Results

Race for the Cruiser Championship of America

Philadelphia Yacht Club—August 4, 1923

Length of Course: 84 *nautical miles*

Boat	*Owner*	*Club*	*W.L.L.*	*W.L.B.*	*C.*	*Motor*	*No. of Cyls.*	*Bore and Stroke*	*R.P.M.*	*H.P.*	*Rating*	*Allow.*	*Elapsed Time*	*Corr. Time*	*Position*
Nueva	T. W. Brigham	Shelter Island Y. C.	39.58	7.54	1.41	Van Blerck	4	5¾x6	688	35.73	41.42	0:59:20	7:00:42	6:01:22	1
Spendthrift	W. R. Halsey	Orienta Y. C.	44.89	9.60	1.46	Van Blerck	4	5¾x6	697	36.20	39.45	1:24:07	7:51:16	6:27:09	2
Diana	A. B. Cartledge	Philadelphia Y. C.	40.19	7.78	1.36	Hershell-Spillman	6	4⅞x5½	1040	53.37	45.91	0:09:42	6:57:37	6:47:55	3
Salome	Craig Bros.	Riverside Y. C.	33.67	9.29	1.35	Keystone	4	5x6	512	20.10	34.13	2:47:33	9:36:00	6:48:27	4
Lady Jane	Mrs. J. C. Sides	Riverside Y. C.	42.13	8.25	1.17	Keystone	4	5x6	547	21.48	37.79	1:47:38	8:36:52	6:49:14	5
Intrepid	E. Webb, Jr.	Philadelphia Y. C.	30.74	11.13	1.58	Ralaco	4	4x6	533	13.40	30.49	4:01:01	10:54:06	6:53:05	6
Mascot	Charles Hieber	Columbia Y. C.	35.85	7.72	1.36	Keystone	4	5¼x6	552	22.78	36.86	2:02:01	9:00:34	6:58:33	7
Pickaninny	Bell & Headley	Camden M. B. C.	32.48	7.89	1.06	Simplex	4	5¾x6½	721	33.84	42.31	0:48:43	7:49:27	7:00:44	8
Helma	W. Frederick	Wilmington B. C.	37.68	8.48	1.04	Fay & Bowen	4	5x6¾	636	25.91	39.85	1:19:14	8:22:28	7:03:14	9
Halcyon	S. Miura	Sheepshead Bay Y. C.	32.13	7.31	1.06	Elco	4	4¾x6	881	31.22	42.21	0:49:42	7:55:55	7:06:13	10
Diana	John Ferry	Adelphia Y. C.	36.05	8.10	1.13	Mercedes-Simplex	4	4½x5¾	699	17.61	35.87	2:17:36	9:27:25	7:09:49	11
Querida	Charles Oakley	Trenton M. B. C.	39.13	8.58	1.00	Fay & Bowen	4	5x6½	804	34.20	43.14	0:38:57	8:15:04	7:36:07	12
Martha M II	C. A. Mayer	Columbia Y. C.	36.87	7.54	1.17	Pierce-Arrow	6	5x7	732	50.39	46.85	Allows	7:37:21	7:37:21	13
Eugenia	E. M. Swayne	Yachtmen's C.	34.79	8.40	1.15	Doman	4	4¼x4¾	650	14.61	33.81	2:53:30	11:34:48	8:41:18	14
Jeanne II	W. McBarker	Philadelphia	42.04	9.00	1.23	Buffalo	4	5½x7	568	31.49	40.00	1:17:11	10:29:00	9:11:49	15
Mowgli	A. Cramer	Camden M. B. C.	38.96	9.01	1.21	Simplex	4	5¾x5¾	710	34.34	30.69	Did	Not	Finish	..

Summary of Results

Auxiliary Race from Bayside, Around Block Island and Return

Bayside Yacht Club—August 3 to 6, 1923

Length of Course: Approximately 250 *miles*

Name	*Owner*	*Club*	*L O A*	*Elapsed Time* h m s	*Allowance* h m s	*Corrected Time* h m s	*Order of finish*
Coya	A. Vanderlaan	Orienta	39-6	61-53-16	3-15-00	58-38-16	9th
Sakana	J. H. Esser	Larchmont	46	53-24-57	1-37-30	51-47-27	First
Sagola	B. A. Hinman	Larchmont	42	60-52-10	2-37-30	58-14-40	6th
Wenonah	W. E. Webb, Jr.	Larchmont	38-7½	69-30-00	3-30-00	66-00-00	11th
Rambler	Alex. Girtanner	Bayside	44-9	59-29-30	1-52-12	57-37-18	5th
Hutoka	G. B. Drake	Bayside	52-4	54-35-30	0-00-00	54-35-30	4th
Thorana	C. J. Tingler	Silver Beach	42	56-59-54	2-37-30	54-22-24	3rd
Dolphin	F. C. Birch	Larchmont	42-9	.....	2-22-30	.....	Withdrew
Seminole	E. H. Cooper	Sachem's Head	46-0	59-52-26	1-37-30	58-14-56	7th
Damaris	D. H. Atwater	Fall River	41-3	60-53-07	2-37-30	58-15-37	8th
Norseman	F. H. Wadsworth, A. A. Buchanan	N. Y. Canoe	38-6	62-18-21	3-30-00	58-48-21	10th
Amida	E. R. Behrend	Erie	52	53-59-43	0-07-30	53-52-13	2nd
Ipswich	O. G. Martens	N. Y. Athletic	....	.....	.....	.....	Did not start
Ariel	A. J. Huke	Bayside	31-10	.....	5-07-30	.....	Withdrew

Wrestling with an Insistent Demand

This season of 1923 has been the biggest year ever known for Standard Reverse Gears. We knew it was coming and prepared for it. We knew Standard popularity was growing—and still we were utterly surprised by the flood of orders that commenced early last spring.

Even under ordinary conditions it would have been difficult to maintain prompt deliveries with such a demand. And then several circumstances beyond our control—for example, a disastrous fire in an adjoining plant which damaged some of our stock and machinery—hampered our production and made our problem still more difficult.

This is not an apology, nor even a request for sympathy. We feel this explanation is due to our good friends who have waited for Standard Gears. It is a gear worth waiting.

An oil groove with packing makes this case oil-tight at every joint. Oil traps at the end of each bearing prevent leakage. A ball thrust bearing at the rear is an integral part of the Standard Gear.

The Standard Multi-Cone Clutch—in all Standard Reserve Gears

It wears in—not out

The most efficient clutch ever designed for marine use

The Standard Midget

The Standard Midget. The smallest reverse gear made. Holds 5 H. P. at 1,000 R.P.M.

The smooth engagement and tremendous holding power of the Standard Multi-Cone Clutch is due to its great friction surface. See the four large cones in the illustration above and note that all the friction surface is at the point of greatest diameter which increases the leverage and holding strength. These cones are much larger and sturdier than the thin plates used in a multiple disc clutch. The Standard is the only reverse gear than can use this exclusive Multi-Cone clutch.

Write today for catalog and prices

STANDARD GEAR CO.

2819 Brooklyn Ave. Detroit, Mich.

Cable Address—"Stangear"

Advertising Index will be found on page 126

Inverted V-bottom and Surface Propeller boats.

Hickman Patents in all countries.

SEA SLED

Trade Mark Reg. U. S. Pat. Off.
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25-foot Standard Sea Sled Sedan at Speed

We have available for immediate delivery 25′ x 6′ Sea Sleds

Runabouts

With 100 h.p. Hall-Scott motor, speed 30 miles per hour — Price $4,000.00

With 125 h.p. Hall-Scott motor, speed 32 miles per hour — Price

With 200 h.p. Hall-Scott motor, speed 40 miles per hour — Price 7,300.00

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With 2-75 h.p. Sturtevant motors, speed 37 miles per hour — Price 8,000.00

Sedan

With 2-75 h.p. Sturtevant motors, speed 35 miles per hour — Price 9,000.00

THE SEA SLED COMPANY, LTD.

NEW YORK OFFICE
41 PARK ROW
Telephone Cortlandt 1574

WEST MYSTIC, CONN.

Nueva Wins Cruiser Championship

(*Continued from page* 46)

racing men on the Delaware, and who without question, has more knowledge of tides and local conditions than any one else participating in the race.

Intrepid, owned by Elisha Webb, Jr., of the Philadelphia Yacht Club, was one of the dark horses of the race and was considered by many to have an excellent chance of winning. This boat, which was one of the lowest rating craft participating, rating only 30.74 was picked by the Philadelphia Yacht Club, on this very account, because with Diana the highest rating boat and Intrep.d at the other end of the list, they considered that they would be unbeatable. However, on account of Intrepid's slow speed, the tidal conditions did not work out to her liking. In spite of the four hours handicap she was allowed, the best she could finish on corrected time was sixth.

After the boats had finished and the observers had turned in the record of revolutions taken every twenty minutes during the race, it was found by the Race Committee that Nueva had won the trophy, winning by about twenty-six minutes over Spendthrift II, which took second place from Diana by twenty minutes, corrected time. Salome was only thirty-two seconds behind Diana and Lady Jane came along forty-six seconds astern of Salome, on corrected time.

Nueva, besides winning possession of the American Power-Boat Association handicap Cruiser Championship Trophy for one year, was presented as first prize by the Philadelphia Yacht Club a very handsome chest of silver. The club also presented a second prize to Spendthrift II, third prize to Diana, fourth prize to Salome, fifth prize to Lady Jane, a sixth prize to Intrepid, a seventh prize to Mascot, and eighth prize to Pickaninny. The time prize won by Diana was a silver platter presented by the Delaware River Yachtsmen's League.

The story of the Cruiser Championship Race would not be complete without mention of the most excellent manner in which the Philadelphia Yacht Club handled the race and the hospitality which they showed to the crews of the racing boats, and the visiting yachtsmen. Open house was kept on the day of the race, as well as on the preceding day. A dinner was tendered to the visitors on both Friday and Saturday evenings. Philip H. Johnson, Commodore of the Philadelphia Yacht Club, proved to be an excellent host, and showed that he will soon have as good a reputation in connection with motor boat regattas as he long has had in the sailing field.

Of course, with Reuben B. Clark, acting as chairman of the Race Committee, no details were overlooked. Not a word of protest or dissatisfaction was heard from any of the contestants and all particularly agreed that the problem of obtaining a correct record of engine revolutions seems to be solved by the placing of qualified observers on board the boats during this race, and requiring that revolutions of the engines be taken every twenty minutes.

(A complete summary of the race, measurements of all boats, engine dimensions and a complete record of the motor revolutions as reported every twenty minutes by the observers will be found on page 108.)

Last Call for Winners

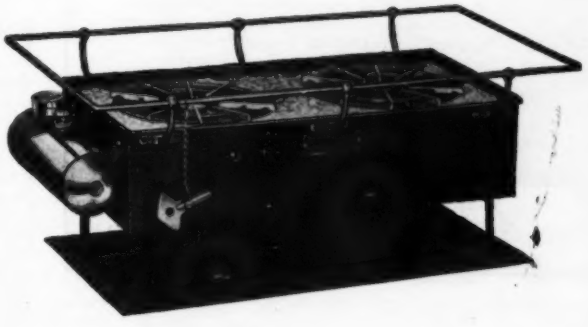
The well known and authentic little booklet, Winners, which is a record of sail and motor boat races in American waters, has appeared in its nineteenth issue and has been widely distributed by the publishers, Edward Smith & Co., 127 West avenue, Long Island City, N. Y. They tell us that there are still a few copies of this booklet to be had and anyone who is interested in receiving one had better write promptly in order to get a copy.

Advertising Index will be found on page 126

Hear What GAR WOOD *Says about*

CRUISER GALLEY STOVE

Despite the roughness we never missed a meal



GAR WOOD says—

"I want to express my appreciation for what you have done for the motor boat men of the country in perfecting CRUISER-GALLEY-STOVE.

On our test run from Miami, Florida, to New York City on GAR JR. II, we had your stove aboard. Despite the roughest seas, we never missed a meal. Your stove cooked perfectly under these severe conditions."

Gar Wood not only uses CRUISER-GALLEY-STOVE himself but he recommends it for all cruisers and installs it on the fine cruisers built in his own plant, such as Cigarette, Corisande, etc. No one has given more study to boat equipment than GAR WOOD.

Here is the ideal stove for your galley. Burns ordinary gasoline with a hot, steady, blue flame that a 30-mile gale can't blow out. No special fuel to carry. Absolutely safe, efficient, economical and reliable. A size for every boat.

PRICES

No. 2 Galley, attached tank	$16.50	No. 3 Galley, 3 gallon tank	$27.50
No. 3 Galley, attached tank	18.50	4 burner galley, 3 gallon tank	45.00
No. 3 Galley, 1 gallon tank	23.50	3 burner galley, 1 gallon tank	35.00

No. 2 has 6-inch grates
No. 3 has 8-inch grates

Write today for complete description. Sold by the best marine and sporting goods dealers.

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Tampa, Fla.—J. M. Keely, Box 894

Florence, a Double Cabin Cruiser

(*Continued from page* 33)

When finished dress and sand and cover with 10 oz. canvas duck in a single piece which shall be laid in thick paint or marine glue. The interior will have a shelf under the forward deck of ⅞-inch material with a ledge to form a chain locker. There will be a bitt shaped from 4 by 4-inch stock and notched into keel as shown. A watertight bulkhead will be built in at Station No. 2. This is to be made with two plies of ½-inch white pine laid diagonally in opposite directions with a layer of canvas between laid in marine glue. Caulk the framing and securely screw fasten. Clinch nail the bulkhead approximately every 3 inches. Allow an opening for access approximately 18 by 20 inches and provide a backing for same. This is to be well screw fastened with a gasket so as to be watertight. There will be a partition on Station No. 3 of ¾-inch T & G stock, leaving an opening to the compartment. Space to be used for miscellaneous storage as well as access to the forward deck through a hatch. The hatch cover is to be hinged and fitted with a quadrant as well as a hook to secure same from the inside. There will be another partition on Station No. 4 of T & G stock. This is to be provided with proper jambs and with a single door for access to the toilet room. Provide a dresser on one side with a panel of ⅞-inch stock and drawers of the raised panel type, with two doors below. This is to be fitted with suitable knobs, hinges, etc., all of bronze. The opposite side to be arranged with a suitable closet and a folding type lavatory. All plumbing is to be properly installed with the necessary sea cocks, drains, etc.

There will be another partition on Station No. 6 which shall be made up in the same manner and provided with doors or it may be left open if desired. If doors are fitted, they shall be of the panel type ⅞ inch thick, mounted on suitable hinges and provided with stops and suitable lock, if desired. Construct a seat on each side to form a berth of ⅞-inch panel stock. Allow space below for storage, having removable tops for access. The sides are to be latticed up to the clamp with ½ by 3-inch stock. An upper berth may be arranged by constructing a suitable frame, and upholstering same. This can be used as a seat back and provided with hooks and sockets to secure the same when used as a berth. There will be another partial bulkhead to form the cabin end of the same stock. This will have a rabbeted lower member to prevent leakage. A 24-inch companionway with double doors should be allowed for. The opening shall be fitted with a coaming and arranged for a sliding hatch cover. Space to be arranged for a galley, having a panelled front on each side, the starboard side forming the ice box. This is to be arranged approximately as indicated on the plan, with a drawer and a filler door, with a blind panel below. A door for access should be at the forward end. Doors are to be of the regulation ice box type, provided with suitable hinges and latches for same. The box is to be of the double type, having an open space to be filled with ground cork or other suitable insulating materials. The interior is to be lined with zinc or galvanized iron. The ice drainage is to be arranged to run into the bidge or provided with other suitable means of disposing of same. The top is to be arranged to accommodate a stove, either gas, oil, or alcohol, as may be desired. The two burner type is recommended. The opposite side is to be arranged with a panel front on the same order, having two drawers above and doors below. One to be a partial door, extending only to the sink. The sink shall be built-in, and be approximately 10 by 12 inches in size. Copper lined and provided with a suitable outboard drain. A suitable galley pump should be fitted and connected to the water tank.

The cabin flooring is to be of ⅞-inch white pine throughout. It is to be painted and covered with aluminum. Install five 7-inch bronze port lights on each side and two at the forward end of the cabin. These are to be of the rim type and to have a ring on the outside. Provide one 5-inch cowl type ventilator as shown. The cabin doors are to be mounted on suitable bronze hinges and provided with a bronze lock and the necessary hooks and bolts. Provide a stairs for access to the cabin which shall be approximately 20 inches wide and so arranged as to cover the fly wheel of the engine. These shall be held in place by two stair fasteners. Construct a coaming on the top of the cabin of 1-inch stock, to be fastened from underneath and provided with a cap. Hatch cover is to be arranged to slide under, and to have a drain hole on each side of the hatch runners, immediately forward of the coaming. The cabin shall be trimmed with 1¼-inch half round moulding around the top, securely screw fastened and wood plugged. The hatch slide to be shaped from 1¾-inch square stock, dressed to ⅞-inch on the top with a ⅛ by 1⅛-inch brass strip securely screw fastened to same for a slide. The hatch cover is to have a half round tube on the edge, so that it will slide under the ⅛-inch brass strip.

(*Continued on page* 116)

Advertising Index will be found on page 126

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Florence, a Double Cabin Cruiser

(Continued from page 114)

Cockpit: The cockpit is to extend between stations as shown on the drawings. The supporting beams are to be as specified, and framing for the hatch arranged to suit. It will be decked with white pine, layed with uniform seams of approximately 3-22 inches, dressed and lightly caulked with the seams filled with black marine glue. A coaming and a removable hatch to be built in as indicated. The hatch is to be made in sections, so that it can be easily removed. The box over the motor is to be fitted with a removable cover. There will be a ¾-inch bulkhead at the beginning of the seat. The top is to be solid as well as the front side. The bottom of floor to be of ¾-inch T. & G. ceiling, which shall form the forward end of the after cabin. Seat top to be ¾-inch pine covered with canvas duck, lapping into a rabbet before applying the cabin front, so as to make a watertight joint. A suitable steering housing of mahogany, as indicated on the plan, shall be constructed, to take the compass, which shall be furnished by the owner. The cockpit will have a 2-inch scupper on each side of the after end of the cockpit. These are to drain outboard. The cockpit coaming to be shaped as shown on the plan, of ⅞-inch mahogany and to extend to the after cabin. It is to be screw fastened to the trimmer and wood plugged. Cockpit floor to be supported by posts, one on each side of the motor.

After Cabin: The after cabin is to be constructed in a similar manner to the forward one. It shall have a ¾-inch coaming and ⅞-inch sides, fastened to rabbeted corners. The beams will be ⅞ by 1½-inch notched into the sides. It shall be covered with the same stock as the forward cabin, and canvas covered in a similar manner. An opening is to be allowed for as per plan, fitted with a hinged hatch cover, and provided with a removable step ladder for access. The flooring is to be of ¾-inch stock with a removable center plank. The after end is to be bulkheaded with T. & G. stock. A door shall be fitted to permit access to the space under the after deck. There will be a seat berth on each side of mahogany. These are to have ¾-inch removable tops. There will also be two 5-inch bronze port lights on each side and two on the after end. These are to be of the same type as are used in the forward cabin. The cabin ends are to be of ⅞-inch solid stock fastened with rabbeted corners. The sides are to be applied in the same way as the forward cabin and made watertight with marine glue and canvas. All fastenings except the roofing shall be of galvanized screws and all exposed fastenings in natural finished work, are to be wood plugged.

Fenders and Mouldings: There will be a fender of 2-inch half round oak or shaped from 2½ by 2½-inch stock, and trimmed to take a ⅞-inch half oval galvanized iron. Fenders are to be tapered fore and aft, and are to be screw fastened to the hull, and the iron securely screw fastened to the fender. The material to be of perfectly sound white oak. There will be a half round clear oak moulding on the cabin sides, over the canvas, 1¼ inches in width, and to be screw fastened and holes wood plugged. This is to apply to both cabins. There will be a ⅝ by 1⅛-inch cap on the coaming, which shall be screw fastened and wood plugged. There will also be a fender just above the water line shaped from 1¾ by 2-inch stock, to have a ⅞-inch face and to be finished with a half oval galvanized iron, screw fastened. This is to extend to such a point forward where it will intersect the sheer line fender.

Stem Band: Stem band is to be ⅞-inch half round galvanized iron. It is to extend at least 4 feet under the boat, and to be securely screw fastened to the stem and bent in a hook over the top of the stem.

Steering Gear: Steering gear is to consist of a 24-inch checked type wooden wheel. This is to run in bronze bearings, with a shaft and sprocket wheel, and a sprocket chain, extending below the deck. It is to run on sheaves of a square type and then fastened to a cable which shall run on each side through liberal fair leads to the stern and to the quadrant. The cable shall be at least ⅜ inches and to run through 4-inch galvanized sheaves at the forward and after ends. It is to be securely fastened to a 12-inch quadrant and have a turn buckle on each side for take-up. All joints are to be either spliced or clamped with best clamps for the purpose. The entire job is to be galvanized and executed in the proper manner so that wear shall be reduced to a minimum. Arrange the steering housing so that one side may be removed and fasten it with screws so as to make it accessible.

Railings: There will be a monkey rail at the stem, as shown on the plans. There will also be a hand rail on top of both cabins. This is to be of ½-inch pipe and standard pipe stanchions. These are to be securely bolt fastened so as to hold securely.

Awning: There may be an awning over the cockpit if desired, as shown on the plans. The frame is to be made of ¾-inch galvanized iron pipe. It is to be mounted on awning sockets on the deck, and also one at the top end of the coaming to

(Continued on page 118)

Advertising Index will be found on page 126

KERMATH-35
WINS SCRIPPS TROPHY

"A Kermath Always Runs"

CLEVELAND, O., July 30.—John B. Farr, Detroit Yacht Club, today was the possessor of the magnificent $5,000 Scripps Reliability trophy, the most coveted of all prizes awarded for a power cruiser race. He won it yesterday when he finished ahead of a field of 15 in his fleet little flyer the Namid, in the fifth annual race from Rocky Point to Put-In-Bay and return.

The Namid, which left the Cleveland Yacht Club dock Saturday night at 9:42:47 o'clock, careened across the finish line yesterday morning at 8:11, three minutes in advance of the Fiji II, owned by Harold P. Davis of the Vermilion Boat Club, Vermilion, O. J. Van Ormon's Van-O-T, of the Cleveland Yacht Club, was third.

Namid's victory was the result of almost perfect seamanship. She started Saturday night in thirteenth place, only two boats clearing after she did. Beautifully handled by her owner, and the noted Pirate crew of the D. Y. C. consisting of Barney Platt, Lee Merrill, Dr. A. R. Hackett, Bernard Rich, Al. Paul, Harry Gardiner, she never strayed from her course and overhauled the fleet, boat by boat. She swept into the lead nine miles from the finish in the 112-mile race.

Fiji II, which had an allowance of 18 minutes over the Namid, hung persistent battle, but lost by the small margin of three minutes. The Van-O-T, which was third, ran out of gasoline when within 100 feet of the finish, but had sufficient momentum to run across the line and reach the dock without accepting a tow, which would have disqualified her.

The race for the Scripps trophy, donated by William E. Scripps of Detroit, is generally regarded as the blue ribbon event for cruisers of the Great Lakes. A combination of speed, reliability and seamanship of the highest quality is required because the race is so timed that the most difficult parts of the course are negotiated at night.

Reproduction of article appearing in the Detroit News of July 30th, 1923.

KERMATH M'f'g Co.
DETROIT 5879 Commonwealth Avenue **MICHIGAN.**

Florence, a Double Cabin Cruiser

(*Continued from page* 116)

secure same. The corner shall have approximately a bend of 9-inch radius at the top side. It should also have a fore and aft side clamp of ¾ by 2½-inch oak, bolt fastened. White pine strips ¾ by 1¾ inches should be spaced approximately six inches apart and fastened to the piping with pipe clamps. It is to be covered with 10 oz. Khaki duck and laced to the clamps. Side curtains to match shall be provided if desired. The forward and after uprights are to be secured with floor flanges. Additional fastenings can be secured to the cabin sides and break water where possible.

Table: There will be folding table of ¾-inch mahogany and made in the regulation way. It is to be of the hinged leaf type and removable. It shall be approximately 4 feet in length, with a center piece from 6 to 8 inches wide. The leaves on each side shall have corners rounded off to a 6-inch radius.

Hardware: All necessary locks, hinges, latches, fasteners, etc., to be of solid bronze and suitable for the various purposes for which they are intended. The port lights are to be as specified and as approved by the owner. The hatches around the motor are to be bound in brass and fastened with brass screws. Suitable hooks to be supplied. All fittings are to be of the most approved type and especially made for marine service.

Painting and Finish: The entire hull is to be thoroughly dressed and sanded. All seams are to be lightly caulked with spun cotton. The hull is to have a coat of boiled linseed oil and turpentine mixed half and half, applied boiling hot, both inside and outside of the hull. The seams are to be filled with composition and to have a coat of pure lead paint throughout inside and up to the water line on the outside. The hull above the waterline is to have three coats of pure lead paint, and two coats of Kirby red or green copper paint below the waterline. The decks to have covering boards, finished natural. They are to be filled with best filler and then to have three coats of Valspar varnish. The deck panels are to have a filler coat and three coats of color to finish smooth. Cabin sides, coamings, cockpit and interior above deck, and including partitions, seat fronts, etc., to be filled and varnished in the same manner. The inside of the hull, unless sheathed, to be finished smoothly with color paint as may be selected. The after cabin is to be finished in the same way. The transom is to be finished in natural, unless otherwise specified in the contract or agreed upon. The cabin roof is to be filled and to have three coats of pure lead paint of a desired color. Mouldings and hatch slides are to be finished natural. All to be well rubbed down between coats, and the work executed in a first-class manner in every respect.

Fittings and Equipment: There will be two closed type chocks suitable for 1-inch rope under the rail. Flag sockets, forward and aft, of the flush type for 1½-inch poles. There will be a single barrel type windless similar to type M 247 X, shown in G. B. Carpenter Company's catalog. There will be a set of lights, suitable for class 2. Portlights of bronze as previously mentioned. A one cabin ventilator of the cowl type, with a 5-inch opening. There will be two regulation 7-inch cleats on each side. There will also be a bitt post on the stern. Steering gear as specified and a rudder of galvanized iron as shown on the plan, with a stock extending through the deck for a tiller, which shall be furnished. It is to be fitted with a suitable quadrant and installed as specified. Shaft log as mentioned later. The galley is to be fitted with a sink and pump as specified, while the stove, which will be furnished by the owner, shall be fastened in place. The toilet room is to have a closet and folding lavatory of approved type. There will be two 24 by 36-inch gasoline tanks installed as shown, and to be mounted in saddles and strapped with clamps. They are to have at least three plys of canvas between the straps and the tank, well red leaded or secured in marine glue. There will be a 6-inch deck plate over each tank in a direct line with the opening, or piped direct to the deck. Cushions, linoleum, etc., are to be furnished by the owner. The builder shall furnish such patterns and framing as may be necessary for the upper berth. There will be a shoe under the propeller, as shown on the plan, and made of galvanized iron. The strut as already specified.

Wiring: All wiring is to be the best for the various purposes intended. Wiring in the cabin to be concealed as much as possible, with a suitable switch, and a separate circuit shall be installed for the running lights. A circuit shall be run for the stern light and also one for a plug for a searchlight and one for a cockpit light. There will be a dome light in the toilet compartment and two dome lights in the main cabin, and one dome light over the galley. All of these are to have independent switches. Two similar lights shall be fitted in the after cabin. These are to be nickeled and as approved by the owner. The switch is to be placed in an accessible position. There will also

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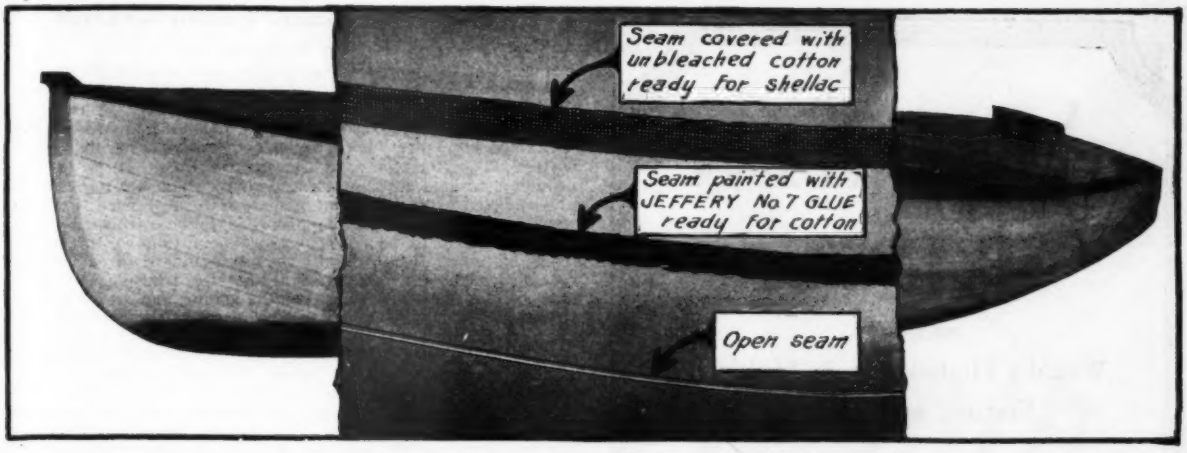

DOES YOUR BOAT LEAK?

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MARINE GLUES

The enlarged section of the above illustration shows how the hull seams of a boat can be treated when the owner does not care to go to the expense of covering the entire hull with cotton or canvas as recommended in our booklet entitled " How to Make Your Boat Leakproof."

The lower seam is shown open, as usually is the case when a boat is laid up during the winter, the middle seam is shown painted with a coat of our Jeffery's No. 7 Marine Glue ready for the cotton fabric which is laid on the glue and ironed into it with a warm flat iron as shown on the top seam. The cotton is then given a coat of shellac and painted. When the job is completed according to these directions the patching strips can scarcely be detected.

We however believe and earnestly recommend that if a more permanent result is desired, the entire surface be covered with fabric, laid wtih our Jeffery's No. 7 Black soft quality Marine Glue. This treatment will insure a boat with a coat of paint once a year being absolutely watertight indefinitely. *Put your leak troubles up to us. We will help you stop them.*

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152 Kneeland Street . . . Boston 11, Mass.

Florence, a Double Cabin Cruiser

(*Continued from page* 118)

be a light in the binnacle and one on each side of the motor.

Motor Installation: The specified motor is a model MDR Stearns, which shall be furnished by the owner. It is to be properly aligned and securely bolted to the foundation with galvanized lag bolts. It is to be coupled to a 1½-inch steel shaft unless otherwise specified in contract. It is to run through a no-bind stuffing-box and strut, which are to be properly babbeted after alignment. Shaft is to be turned down to a standard taper to suit the propeller to be furnished. The exhaust pipe is to be of standard type fittings to the bend. From this point to be steel tubing with standard thread fitting, welded thereto and extending through the transom. It is to have a metal ring flange around the tubing and to be packed with asbestos rope. The water piping to be of galvanized iron pipe and rubber hose. A regulation sea cock and scoop combined shall be fitted. A globe or gate valve shall be installed between the intake and the motor. Gasoline tubing is to be annealed copper and fitted with standard S. A. E. compression fittings. There will be a shut-off valve at each tank and an additional one at the motor. The supply tubing shall extend into the tank from the top and shall reach within ⅜ inches of the bottom. It is to supply the motor through a large size vacuum tank or to have a separate vacuum tank for each fuel tank in order to insure a sufficient supply for the motor. All wiring to the starting motor and for the ignition to be of the very best kind for the purpose intended, and brought to the deck so as to permit operation from there.

It is the intent of these plans and specifications to cover a complete vessel. All fittings and hardware are to be of a first-class type and shall be approved by the owner, and all mechanisms shall operate to the satisfaction of the owner. The boat shall be delivered to the owner in running order and shall operate to his entire satisfaction before acceptance.

Navigation in Ocean Racing

(*Continued from page* 102)

handicap and crossed the finish line ahead of the other three boats. Does it prove anything? No.

Take another comparison from the charts. On June 13 we find that Malabar IV was to southwestward of the fleet, 157 miles on her way. And on the same day Damaris bore a little north of west from Malabar, only seven miles nearer to Montauk. The next day's run of Malabar totted up to only 148 miles, while Damaris, finding good wind out to westward, footed 158 miles. On the third day Malabar again covered 148 miles, while Damaris, never more than 35 miles to westward of the other's course, made only 100 miles. (These, by the way, are measured, and not patent-logged miles.)

In considering these comparative runs it is well to bear a few facts in mind. First, Malabar and Damaris are both Alden-designed boats. Second, they are both of the same type. Third, they both sailed courses (recommended by all experts) that gave them the weather gauge of Bermuda. Fourth, they were both navigated by first rate men, whose noon positions may be accepted without question.

Now observe that Malabar was owned and raced by her designer, and that the best he had he put into her. And yet in the twenty-four hours between noon of June 13 and June 14, she was outsailed by the smaller and less perfect Damaris to the tune of nearly half a mile an hour. Observe again that on the day following Malabar outsailed Damaris nearly 50 miles. Does this mean that the crew of Damaris lay down on the job, or that the boat herself refused to take the punishment of the sea? No, because there were no high winds that day. It proves only that Damaris didn't get as strong a breeze as Malabar did.

So we see that the controversy over the best types of hull and rigging, or over the proper course to sail to Bermuda gets us nowhere. Damaris did not come in seven and a half hours behind Malabar because she was poorly designed, or poorly sailed, or poorly navigated, but because she didn't strike the sailing weather that Malabar did. And Caroline did not finish eight hours behind her sister ship Seafarer because she was or was not a frigate or a Portuguese man o'war, or a Bermuda longtail, but because she was becalmed while Seafarer was not.

I know that good design, good navigating, and iron determination are essential to the winning of an ocean race; but I know too that not in one race nor in a dozen races can the wisdom of this or that course, or the superiority of that or this type of hull or plan of sail be proved—not, at least, so long as one boat gets all the breeze she wants while the next boat gets nothing.

One thing the Bermuda race has proved—that interest in the entrancing art of navigation has never been more widespread in the history of American yachting. May the next event bring out still more first rate navigators.

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Successful Conversions of Navy Craft

(*Continued from page* 41)

the triangular rig with a 28 foot (off the water) mast. This summer the boat has been rigged for sword fishing and a pulpit added. The jib has been run out on the pulpit a little, as it set so close to the mast that there was trouble from back draught. The rig has proven a simple and handy one and gives as good results under sail alone as can be expected. She is used mostly under both sail and power and with this combination she is ideal.

To prevent too much leeway under sail alone, we added a wooden keel, having a depth of 6 inches forward and 10 inches aft, giving an extreme draft of 3 feet.

I made one mistake, however, which had to be corrected. That was the size of the rudder. The rig balanced so that she carried practically no helm at all, but with the long keel and small rudder it was almost impossible to get her about. The present rudder, of the barn door variety, is 3 feet long and, although not handsome, it has ended that trouble.

Pollywog III has made one trip to the Vineyard and one to Gloucester and at present is swordfishing out of Block Island, which proves that her sea going qualities are O. K. She is really a lot of boat for 24 feet and is just one example of what can be made of one of these hulls.

Roamer is fitted as a straight power boat. Her owner is John Ahlberg of Middletown. The alterations were made at the Portland Yacht Yard from the same plans as Pollywog III, with the exception of several minor changes.

The cabin arrangement consists of two berths forward, with storage space underneath and a toilet forward between them. Aft of there, on the port side, is a two burner kerosene stove, while a sink and copper water tank are fitted on the starboard side. A thirty gallon galvanized iron gas tank occupies the space under the forward deck. The inside of the cabin is sheathed, as is the cockpit, from which all the seats have been removed in favor of campstools.

The motor, a 2 cyl. 4 cycle 10 h.p. Palmer, is installed on the original bed and is not housed in in any way.

A 2 foot after deck was put in but the bitts were removed and a cleat used instead. A single cleat is also used forward.

In building the cabin, vertical staving was used instead of the single board, as on Pollywog III. This is covered with canvas, as is the deck. A standing top has been put on, which makes the cockpit very comfortable.

Probably this type of alteration appeals to the majority of people although, personally, I much prefer the auxiliary for real enjoyment.

Star is rigged as a raised deck motor boat with the idea of using her for fishing and work as well as pleasure. Her owner, W. H. Frasier of Cromwell, Conn., did the rebuilding himself.

The cabin is 12 feet 6 inches long and the new ribs were run up, carrying out the original flare of the hull. At the bow the added height is 8 inches and at the aft end of the cabin 16 inches, which will give the required head room.

So far, no work has been done inside the cabin except to ceil it in, and to bulkhead off the 3 foot space forward of the bitt as a big locker.

The original bulkhead was left in and a 2 foot 6 inch bridge deck was put in at the height of the old seat. Two fourteen gallon copper gas tanks are placed under this and the remaining space is used for storage.

The cockpit arrangement has been unchanged and the motor, a single cyl. 5 h.p. Hubbard, is placed on the old beds. Although with only half the power of the other boats Star seems to slip along practically as fast as they do. However, I imagine that in rough water the extra power would tell. Mr. Frazier has used her almost continually since early Spring for both work and pleasure and he is very enthusiastic over her ability and handiness.

Felisi is owned by Commodore T. M. Russell of Middletown. Mr. Russell has owned many types of boats but this is his first try at building. It is a job that many professionals would be glad to call their work. Here is what Commodore Russell has to say about her.

Felisi came into being in response to the desire for a small, handy auxiliary for short cruises, fishing and general fun on the water.

The hunting cabin was adopted as offering the best combination of deck space and cabin room for an auxiliary. The forward deck is ample for handling and stowing the ground tackle and permits proper placing of bowsprit and bitts.

The water tight bulkhead amidship, together with its cross seat, was retained and used for the after cabin bulkhead and the space under the seat takes a seventeen gallon water tank.

The cabin contains two 6 foot transom berths, a Curtis toilet aft on the starboard side and a shipmate range forward on the

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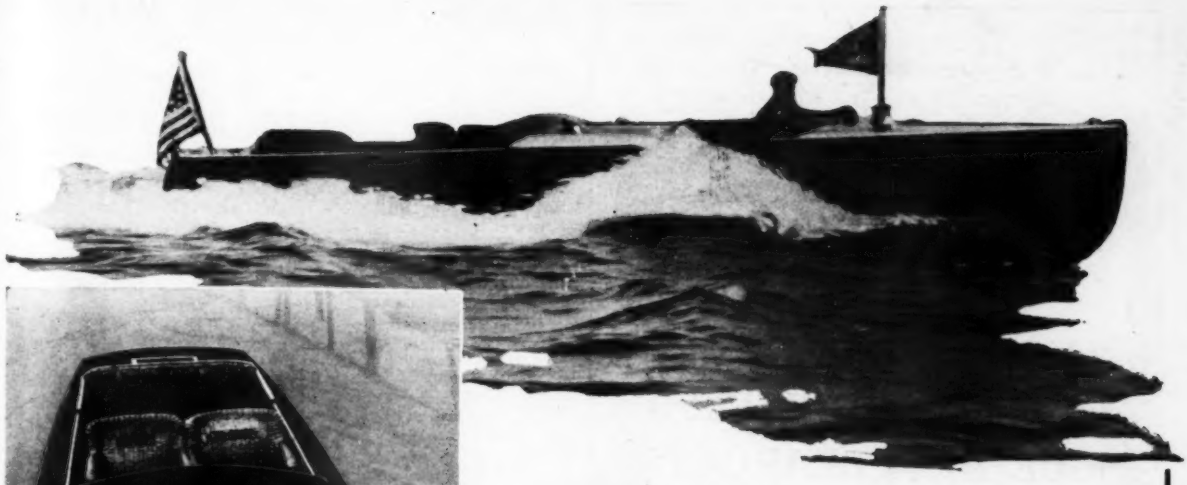

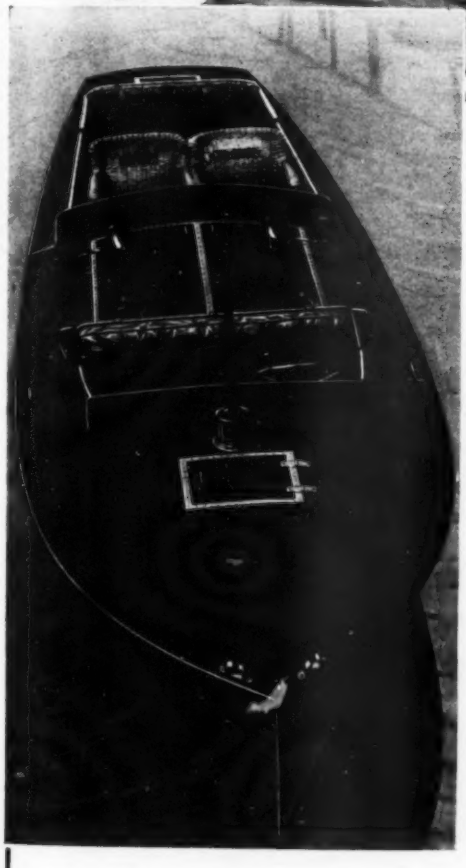

GREAT LAKES PACKARD RUNABOUT

A STANDARDIZED 26-foot mahogany runabout incorporating the 45 H.P. Junior Model Packard Marine Engine. To be distributed and serviced through Packard motor car dealers of which there are nearly 800 throughout the country.

Furnished with single or double cockpit, both types seating seven, with full auto control for one man operation. Speed 18-20 miles.

Traditional Packard standards of motor engineering and manufacture have prevailed in the production of Packard marine engines. The breadth of the Packard service organization has now been extended to yachtsmen.

Specifications and prices of Packard Marine Engines on request

PACKARD MOTOR CAR COMPANY, DETROIT

ASK THE MAN WHO OWNS ONE

Successful Conversions of Navy Craft

(*Continued from page* 122)

port side. The fore peak makes a handy pantry and store room for the galley.

The two 15 gallon gas tanks are under the after deck and give a radius of a safe 200 miles for the 10 h.p. Frisbie motor.

She is an excellent sea boat, as are all of this type, and the general plan and rig have proved entirely satisfactory for just what was wanted—a handy general utility boat that would always be ready to go and would require little or no attention between times.

In addition to the pleasure derived from her use, there were many happy hours put in during the long winter in installing the engine, building the cabin, getting out the spars, and working out the sail and rigging plan.

Every small boat man gets lots of pleasure out of his boat, but nothing quite equals the pleasure you get when you put your own creation to the test of actual sea service and see that your workmanship was good and your plans work out

My advice to any one with a bent for the water and a liking for tools is get a motor sailer, install a 10 h.p. Frisbie and then carry out your own ideas as to plan and finish in your own backyard. You must be a Jack-of-all-trades if you want to do it all—carpenter, plumber, electrician, painter, machinist, rigger and a few odds and ends of all the other trades. You will know a lot more when you finish than when you began, but it is very much worth while.

1924 Model Marine Engine

(*Continued from page* 98)

Winton Engine Works, Cleveland, Ohio

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weight
W-6	80	6½x9	6	4	500	5900
W-5	125	8 x11	6	4	450	10000
11	220	9½x14	6	4	400	19000
54-A	150	7½x11	6	4	450	23000
W-35	225	11 x14	6	4	250	44000
W-24A	350	12 15/16 x18	6	4	225	64000
W-40	450	12 15/16 x18	8	4	225	90000

Wisconsin Motor Mfg. Co., Milwaukee, Wis.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M	Weigh
30	4 x5	4	4	1000	850
40	3⅜x5	6	4	1000	1050
40	4¼x5½	4	4	1000	850

Outboard Motor Manufacturers

Caille Perfection Motor Co., Detroit, Mich.

Model	Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weigh
Liberty	2	2⅝x2⅛	1	2	700	60
5-Speed	2	2⅝x2⅛	1	2	700	71
Neptune	2	2⅝x2½	1	2	700	63

Elto Outboard Motor Co., Milwaukee, Wis.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weigh
3	2¼x2	2	2	1400	50

Evinrude Motor Co., Milwaukee, Wis.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weigh
2	2⅝x2⅛	1	2	800	71
2	2⅝x2⅛	1	2	800	60
2	2⅝x2⅛	1	2	800	50
4	2⅝x2⅛	2	2	1200	80

Johnson Motor Co., South Bend, Ind.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weigh
2	2x1½	2	2	2300	35

Lockwood-Ash Motor Co., Jackson, Mich.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weigh
2	2⅝x2⅛	1	2	1000	50

Spinaway Boat Motor Co., Freeport, Ill.

Horse Power	Bore and Stroke	No. of Cylinders	Cycle	R. P. M.	Weigh
2	2⅝x2⅝	1	2	1200	45
3	2¼ x2	2	2	1500	60

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